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INVESTIGATION OF CONCENTRATION OF ECONOMIC POWER

TEMPORARY NATIONAL ECONOMIC COMMITTEE

A STUDY MADE UNDER THE AUSPICES OF THE DEPARTMENT OF COMMERCE FOR THE TEMPORARY NATIONAL ECONOMIC COMMITTEE, SEVENTY-SIXTH CONGRESS, THIRD SESSION, PURSUANT TO PUBLIC RESOLUTION NO. 113 (SEVENTY-FIFTH CONGRESS), AUTHORIZING AND DIRECTING A SELECT COMMITTEE TO MAKE A FULL AND COMPLETE STUDY AND INVESTIGATION WITH RESPECT TO THE CONCENTRATION OF ECONOMIC POWER IN, AND FINANCIAL CONTROL OVER, PRODUCTION AND DISTRIBUTION OF GOODS AND SERVICES

MONOGRAPH No. 3

WHO PAYS THE TAXES?

(Allocation of Federal, State, and Local
Taxes to Consumer Income Brackets)

Printed for the use of the
Temporary National Economic Committee



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MONOGRAPH No. 3

WHO PAYS THE TAXES?

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ACKNOWLEDGMENT

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The Temporary National Economic Committee is greatly indebted to these authors for this contribution to the literature of the subject under review.

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JOSEPH C. O'MAHONEY,

Chairman, Temporary National Economic Committee.

TABLE OF CONTENTS

	Page
Letter of submittal.....	vii
Part I.—Scope and main results of the study.....	1
A. Scope and limits.....	1
1. Theoretical aspects.....	1
2. Technical aspects.....	2
B. Sources and methods.....	3
1. Measurement of income.....	3
2. Classification of taxes.....	3
C. Résumé of results.....	6
Part II.—Procedures.....	9
A. Consumer income and consumption patterns in 1938-39.....	9
1. Incomes.....	9
2. Savings.....	10
B. Value added by manufacture.....	11
C. Taxes.....	12
1. Tax classification.....	12
(a) Personal nonshiftable taxes.....	12
(b) Taxes on specific consumption.....	13
(c) Business taxes.....	15
(1) Corporate income taxes.....	16
(2) Other business taxes.....	16
2. Tax allocation.....	16
(a) Personal taxes.....	17
(b) Specific consumption taxes.....	18
(c) Business taxes allocated to sectors of the economy.....	20
3. Tax shifting.....	23
(a) Corporate income and profits taxes.....	23
(b) Taxes shifted to consumption.....	24
(c) Taxes shifted to wages.....	25
Part III. Results.....	27
A. Final tax patterns.....	27
1. Personal and consumer taxes.....	27
2. Taxes and income.....	27
3. Taxes as an influence on consumption.....	30
B. Influence of taxes on business.....	32
C. Influence of taxes on savings.....	32
Appendices:	
I. The defense-tax bill.....	34
II. Selective bibliography.....	36
III. Tax capitalization.....	38
IV. Distribution of taxes on real estate by type of owners.....	39
V. The method of study.....	42
Index.....	53

LIST OF TABLES

I. Savings and all taxes as percent of consumer income, 1938-39.....	6
Ia. Personal and specific consumption taxes, as percent of consumer income, 1938-39.....	12
Ib. All taxes as percent of consumer income, 1938-39.....	13
II. The distribution of customs duties by type of import.....	14
III. Specific consumption taxes 1938-39.....	19
IV. Taxes paid by sectors of industry.....	22
V. Business taxes as percent of income produced, 1938-39.....	22
VI. Estimates of State sales taxes paid by commodity groups.....	25
VII. Total taxes as percent of consumer income, if business taxes were shifted to wages, 1938-39.....	26

	Page
VIII. Taxes as percentage of national income in United States and Great Britain.....	27
IX. Income and tax percentages for 1938-39, cumulated.....	28
X. Taxes and income, 1932.....	28
XI. Taxes in relation to consumer income in 1938-39, if 1932 tax rates had been in force in 1938-39.....	29
XII. Taxes and savings as percent of consumer income per consumer unit, 1938-39.....	30
XIII. Consumer savings by income brackets, related to consumer incomes in 1935-36 and 1938-39.....	33

APPENDIX TABLES

A. Percentage of defense taxes paid by each income bracket.....	34
B. Defense taxes as percent of consumer income.....	35
C. Basic data on consumer incomes.....	42
D. Gifts, savings, and expenditures.....	43
E. Tax receipts, fiscal year 1939.....	44
F. Personal taxes by income brackets.....	45
G. Specific consumption taxes and all consumption taxes, by income brackets.....	47
H. Taxes on business shifted to consumers and shareholders.....	50
J. All personal taxes, including taxes shifted to shareholders.....	51

DIAGRAMS

I. Personal and specific consumption taxes as percentages of consumer income, 1938-39.....	4
II. Original personal and specific consumption taxes plus business taxes shifted forward, as percentages of consumer income, 1938-39.....	5
III. Distribution and disposition of consumer income—United States, 1938-39.....	7
A. Consumer units and income by income brackets.....	7
B. Consumer taxes and consumer savings.....	7

LETTER OF SUBMITTAL

The Honorable JOSEPH C. O'MAHONEY,
*Chairman, Temporary National Economic Committee,
United States Senate, Washington, D. C.*

MY DEAR SENATOR: I have the honor to submit herewith a report on Who Pays the Taxes? (Allocation of Federal, State, and Local Taxes to Consumer Income Brackets). It is an exploratory study, the results of which must be regarded as tentative. I believe, however, that even these tentative results shed light on certain economic aspects of the existing tax system and may be useful in formulating a tax policy which takes into account the economic repercussions of taxation.

The report has been prepared by Miss Helen Tarasov in consultation with Gerhard Colm. The authors had the benefit of consultation with various members of the Industrial Economics Division of the Office of the Secretary, and of Marius Farioletti.

Respectfully submitted.

ERNEST A. TUPPER,
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WHO PAYS THE TAXES?

ALLOCATION OF FEDERAL, STATE, AND LOCAL TAXES TO CONSUMER INCOME BRACKETS

Part I.—SCOPE AND MAIN RESULTS OF THE STUDY

A. SCOPE AND LIMITS

1. *Theoretical aspects.*—The distribution of the tax burden among people of various income brackets is an essential criterion not only of the justice of the tax system but also of its economic effects. The extent to which taxes curtail the purchasing power of the masses or absorb incomes of the higher brackets or fall upon consumption or on savings cannot be known without studying the incidence of taxes on people in the various income brackets. No rational tax policy can be developed without knowledge of these basic facts.

It is not surprising, therefore, that many attempts have been made to measure the impact of the tax system upon people of various income brackets. Usually these measurements have been based upon an analysis of the taxes paid directly plus those indirectly included in the various expenses paid by families of a typical size, of a typical economic status, and residing in a specific locality.¹

In this report an attempt has been made to give a break-down of all Federal, State, and local tax revenues, according to the income brackets of the tax bearers. Thereby the results of the sample studies are supplemented by an over-all picture.

Before presenting the results it is necessary to emphasize that an analysis of the progressive and regressive elements in the tax system is essential for judging its equity and its economic effects, but they are by no means the sole elements that must be considered. Other factors to be considered can only be mentioned here:

(a) For judging taxes, the use made of their yield should not be ignored.

In this analysis, for instance, Social Security taxes are included without regard to the distribution of benefit payments. Business taxes, too, are treated without considering Government services rendered to business. For a comprehensive analysis of the effects of the fiscal system on the distribution of real income, the benefits derived from free services of the Government (education, public hygiene, etc.) should not be neglected.

(b) The type of tax should be considered. Among the levies which form the main part of the tax burden of the lower income groups are (besides Social Security taxes) poll taxes, excise taxes, and the part of property taxes which affects the costs of housing. A poll or head

¹ See, for instance, the very careful analysis of this sort published by the Twentieth Century Fund—*Studies in Current Tax Problems*, 1939, Research Director Carl Shoup, Associate Directors Roy Blough and Mabel Newcomer. For Great Britain, see *Report of the Committee on National Debt and Taxation*, 1927 (so-called Colwyn Report).

tax; a tax on a life necessity, such as housing; a tax on mass luxuries, such as tobacco; or on what may be necessity and luxury at the same time, as gasoline, may fall upon people of the same income bracket and yet be quite different from the point of view of justice or social hygiene.

(c) The indirect costs of various taxes, resulting from the cost of administrative expenses and economic frictions, should be considered.

Various taxes imply not only different costs of collection but also varying costs of payment for the taxpayer and result in diverse degrees of tax resistance, a factor not to be overlooked in judging a tax system. The economic frictions also differ as between taxes. This aspect, too, is outside the scope of this study but should not be ignored in a comprehensive appraisal of a tax system and of reform proposals.

Thus, although the aspect of progressiveness and regressiveness presented in this study is fundamental—it is probably the most essential single aspect for judging a tax system, nevertheless, it is not the only criterion which should be applied in deciding on tax policy.

2. *Technical aspects.*—A study of the progressive and regressive elements in the tax system is further limited by difficulties inherent in the problem itself. Such a study belongs to the type of analysis which may be called constructional statistics. For this type of analysis the same accuracy cannot be claimed as for the usual statistics based on factual counting. The National Resources Planning Board's estimates are the best available source of information on the distribution of consumer income, expenditures, and savings, even though they are based on a relatively small sample. The figures on tax revenue are taken from actual statistics, but the subdivision of the tax revenue often does not correspond to the break-down needed for this economic classification. In this respect, too, estimates had to take the place of actual statistics. Nevertheless, the study does give a picture of the comparative relation between the taxes and incomes of the various brackets. The reasonableness of the results has been tested by varying some of the basic figures within the range of probability. Even assuming possible errors in certain estimates (especially with respect to the extrapolation of incomes, expenditures, and savings) the results would not change fundamentally. Yet it is frankly admitted that this is an experimental approach that requires further refinement. It is hoped that the 1940 Census of Population, in conjunction with a more detailed analysis of the 1939 income-tax returns, will permit more accurate statistics on the distribution of incomes than the one used in the present report.

A second difficulty arises from the fact that even the most complete statistical material can never measure the incidence of taxation. The incidence of taxes can be derived from figures on tax payments only on the grounds of theoretical reasoning and hypothetical conjecture. Whatever statistical refinement is achieved, therefore, the results necessarily rest on a number of assumptions. The incidence of taxation depends, among other factors, on the degree of competition and monopoly prevailing in an economy, on the direction of Government regulation of prices and cost factors, on the general trend of economic growth or stagnation, on the development of labor productivity, on the time which has elapsed since the introduction of new taxes or the increase (or decrease) in tax rates, and, finally, it depends on the use made of taxes and on the other fiscal policies (e. g., borrowing) pursued at the same time.

With respect to the assumptions concerning incidence, a crude test of reasonableness has also been applied. The same computation has been made twice, once assuming that business-cost taxes are shifted forward to prices, then assuming that they are shifted backward to wages. With respect to the general patterns of progressiveness or regressiveness of the tax system the results of the two computations do not differ substantially.

B. SOURCES AND METHODS

1. *Measurement of income.*—The National Resources Planning Board publications on *Consumer Incomes* and *Consumer Expenditures* in 1935–36 were used as a basis for estimating the distribution of personal incomes and the patterns of expenditure and saving in the various income brackets. The Board's 15 income groups were condensed to 10 classes of gradually increasing intervals for convenience in handling. Its concept of "consumer units," meaning both families and individuals, was adopted. Likewise, the Board's saving and gift figures were taken as a starting point, and its conclusions as to percentages of expenditures directed to various types of goods and services by the different income brackets were used as the basis for allocating a wide range of consumer taxes. The Board's estimates for 1935–36 were extrapolated to the year 1938–39 with the help of the Department of Commerce estimates of national income. The method applied for this extrapolation is discussed in part II, section A, 1.

Business taxes were related to business activities measured by the income produced by production and services. These estimates were derived from the statistics of national income prepared by the Department of Commerce.

These national income figures were conjoined to the Board's data in *Structure of the American Economy* in order to extend the latter figures to 1938–39. Extrapolation was naturally impossible in view of the uneven proportion of income produced by industries at different stages. The assumptions imposed by incomplete or defective data and the step-by-step technique of calculation are summarized below in part II B, and presented in greater detail in appendix V.

Before any allocation to consumer or produced income of the various taxes could be made, however, it was necessary to supplement the ordinary fiscal classification of revenue by an economic grouping. Such economic classification is quite difficult because one tax frequently, if not usually, contains elements of diverse economic significance. The property tax especially exemplifies the complex nature of taxes.

2. *Classification of taxes.*—In classifying taxes according to their incidence three tax groups may be suggested:

(a) Taxes on individuals (poll, income, estate and gift, non-business personal property) attributed to individual income taxpayers under the presumption that they normally cannot be shifted.

(b) Excise taxes on specific products (like tobacco, liquor) which can be attributed to the consumers of these specific products under the assumption that they can be and usually are shifted forward by the original payers. Property taxes on home-owners also fall into this category. These first two groupings should each be subdivided according to income classes, if variations in actual incidence and effect are to be observed.

DIAGRAM I

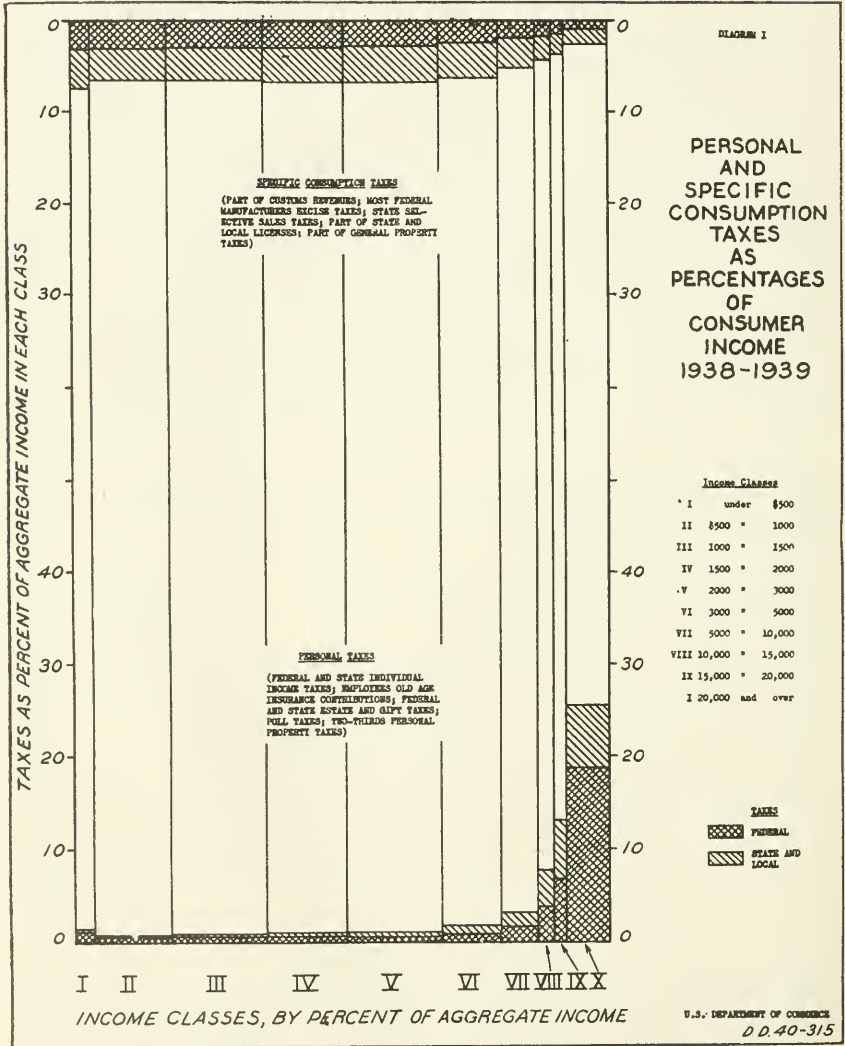
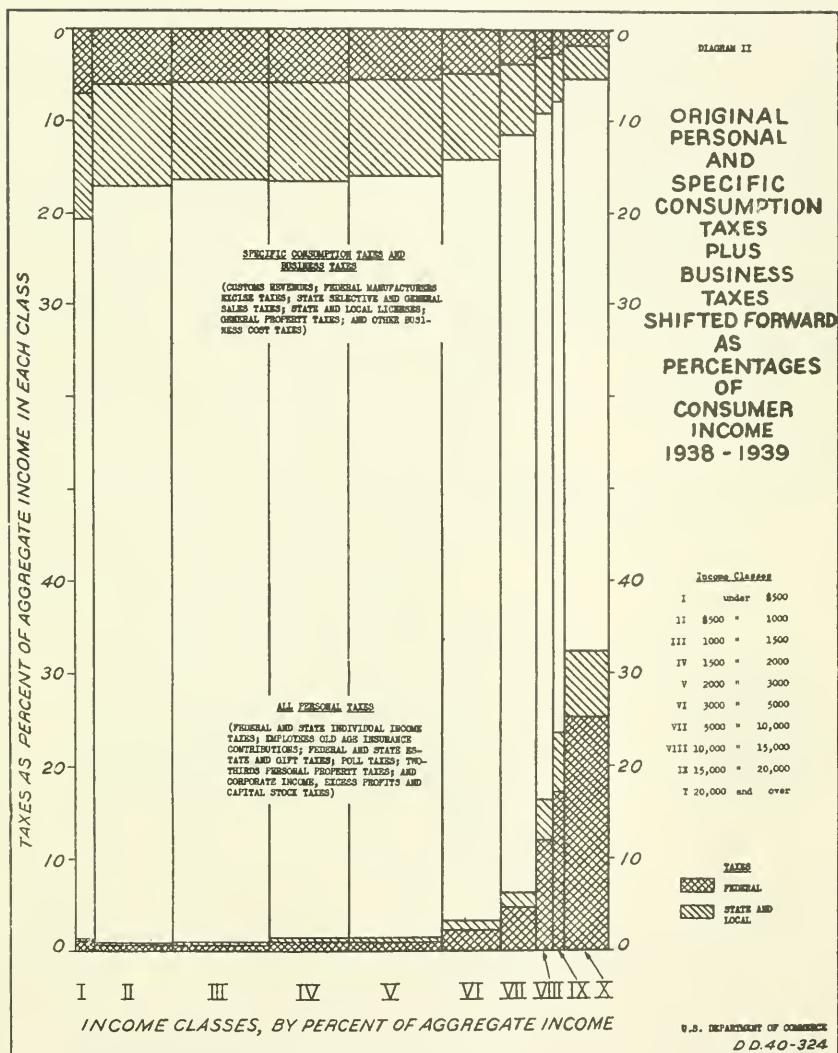


DIAGRAM II



(c) For taxes on business in general, no generalized assumption with respect to incidence as a whole can be made. These levies, such as pay-roll taxes and sales taxes, will be shifted to prices under certain business conditions; under other conditions they will be shifted backward to the factors of production (wage earners, producers of raw materials) or they will be partly borne by profits. For this group of taxes the ultimate tax bearer cannot be determined without a special analysis of economic conditions. In the first stage these taxes are therefore treated separately as business taxes and related to the various branches of industry where the taxes were collected. For the final allocation of these taxes to individuals, the analysis must proceed under various assumptions which will be discussed later. For the computation summarized in the following section, it has been assumed that—

(1) Corporate income, profits, and capital-stock taxes are eventually borne by stockholders, whose income would have been higher in the absence of such levies. These taxes were therefore finally distributed on the basis of stockholdings by income brackets.

(2) All other business taxes are finally shifted to consumption. They were therefore allocated in proportion to the corresponding expenditures.

C. RÉSUMÉ OF RESULTS

The main results of the study can be summarized in the following table:

Table I.—Savings and All Taxes ¹ as Percent of Consumer Income, 1938-39 ²

Income classes	Total consumer income (in millions of dollars)	Taxes as percentage of income			Savings as percentage of income
		Federal	State and local	Total	
I. Under \$500.....	2,363	7.9	14.0	21.9	-24.3
II. \$500 to \$1,000.....	10,038	6.6	11.4	18.0	-2.0
III. \$1,000 to \$1,500.....	12,280	6.4	10.9	17.3	5.2
IV. \$1,500 to \$2,000.....	10,210	6.6	11.2	17.8	5.8
V. \$2,000 to \$3,000.....	12,194	6.4	11.1	17.5	9.6
VI. \$3,000 to \$5,000.....	7,743	7.0	10.6	17.6	16.8
VII. \$5,000 to \$10,000.....	4,861	8.4	9.5	17.9	28.4
VIII. \$10,000 to \$15,000.....	2,238	14.9	10.6	25.5	32.3
IX. \$15,000 to \$20,000.....	1,601	19.8	11.9	31.7	32.3
X. \$20,000 and over.....	6,333	27.2	10.6	37.8	38.3
Total.....	69,861	9.2	11.0	20.2	11.4

¹ Business taxes were assumed to be shifted to consumer income.

² See diagram III.

Sources: Income and savings derived by extrapolation of National Resources Planning Board figures in *Consumer Incomes in the United States* and *Consumer Expenditures in the United States*, Washington, 1939. For original tax figures and their sources, see appendix table E.

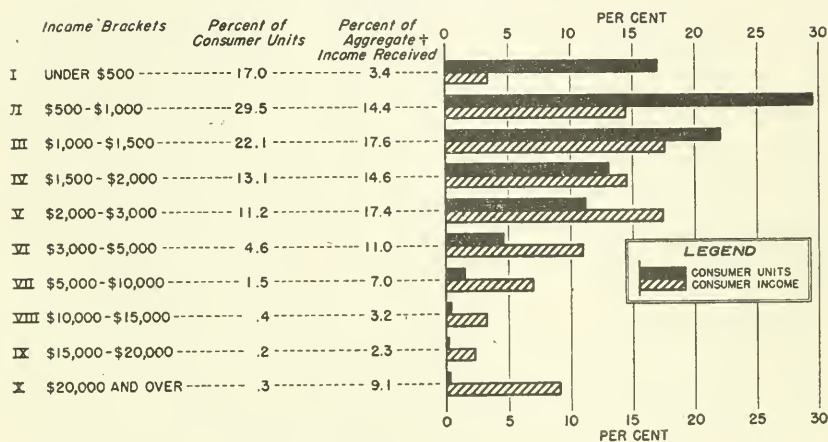
Federal taxes (which include Social Security taxes) impose an approximately flat-rate burden on incomes up to \$10,000, with a very slight regression for incomes below \$500, measured as percent of income, and with a slight progression above \$3,000. Beginning at \$10,000, the progression increases substantially.

DIAGRAM III

DISTRIBUTION AND DISPOSITION OF CONSUMER INCOME

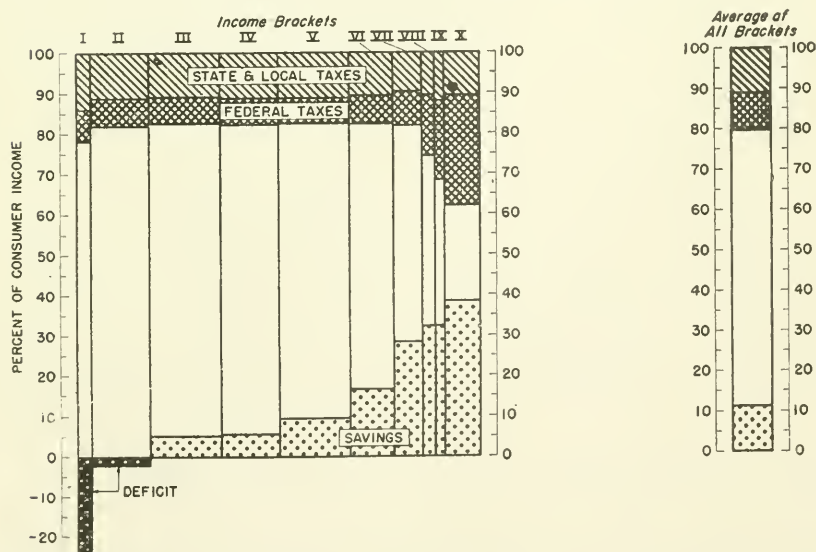
UNITED STATES, 1938-1939

A—CONSUMER UNITS AND INCOME (BY INCOME BRACKETS)



† Income includes Death and Corporate Income and Profits Taxes.

B—CONSUMER TAXES AND CONSUMER SAVINGS*



* Computed as percentages of Consumer Income. Taxes include Business Taxes shifted forward.

State and local taxes, on the other hand, hover in the vicinity of 10 percent of the aggregate income of each income bracket except the lowest, where they amount to 14 percent of income.

Even if this study presents merely reasonable estimates, it does indicate with a high degree of probability the contemporary tax pattern. It may be regarded as a scouting expedition into unmapped territory in order to delimit known and unknown regions and thereby at least blaze a trail for more thorough expeditions. And the study indeed shows wide blank areas to be filled in.

Part II.—PROCEDURES

A. CONSUMER INCOME AND CONSUMPTION PATTERNS IN 1938-39

The National Resources Planning Board's studies of the distribution of incomes and the patterns of income utilization are based on a sample collected for the year 1935-36. This sample covered a large and representative number of families and individuals living alone, but excluded institutional residents from the general tables showing income and spending of consumer "units" at various income levels. The Department of Commerce estimates of the national income have been made for 1929 and subsequent years, but do not present a size distribution of incomes nor a break down of income into consumption and saving. Therefore it was necessary to adapt the patterns of income distribution and income use of the year 1935-36 to the total income of 1938-39.

1. *Incomes*.—For the purpose of distributing the much higher total of income payments in 1938-39 (Department of Commerce figures) among a slightly larger number of consumers than in 1935-36, it was assumed that the number of consumer units had grown in direct ratio to the rise in population; i. e., that family structure and the proportion of single individuals had not altered since 1935-36. The further and more arbitrary assumption was made that the number of consumer units in each income bracket as well as in the aggregate had increased in direct proportion to population growth. On the basis of this hypothesis, consumer income was extrapolated (with allowance for the number of consumer units per group) in proportion to the increase in total national income payments. In the absence of data, gifts¹ were also extrapolated proportionately, although no valid rationale supports this method, other than the well-known sluggishness in the change of expenditure habits. Because of changes in income and taxation, savings ratios were altered much more drastically. (See below, subsection 2.) Nonprofit institutions were ignored because their classification by income brackets would bear no relation to individual income classes; furthermore, since satisfactory information on their aggregate expenditures is lacking, there seems no proper niche for them. Inasmuch as they pay no direct taxes and frequently are allowed refunds on indirect ones, their elimination is not serious for research concerned primarily with tax burdens. The National Resources Planning Board investigation, which gave \$724,000,000 as the income of such groups in 1935-36, also excluded such institutions from its major analyses.

Before these income figures, as obtained by extrapolation, were accepted, another income calculation was made separately, using data of the Department of Commerce; income by income classes was

¹ Gifts and personal taxes were obtained from *Consumer Expenditures*, tables 10A and 19A. The latter shows total gifts and taxes for families and individuals, while 10A gives taxes and gifts separately for families. The total for families was subtracted from the total for consumer units to get comparable individual taxes and gifts. Taxes and gifts were assumed to be in the same proportion for individuals as for families. Taxes when taken from the National Resources Planning Board study always mean personal taxes as defined by the Board, viz., individual income taxes, poll taxes, and some personal property taxes.

computed separately for wages and salaries, dividends and interest, entrepreneurs' withdrawals, rents and royalties, Government pay rolls, and relief, and totaled. The 1938-39 figures thus arrived at were adjusted in line with the deviation of comparable 1935-36 figures from the corresponding National Resources Planning Board data to correct for conceptual differences. Since the final results were close to the figures found by the simpler method of extrapolation, the more cumbersome approach was deemed unprofitable. A further check was provided by the Commerce percentages on the share of national income going to wages and salaries, etc., which has risen very slightly; total relief expenditures in the fiscal years rose between the two periods but not so much as to be proportionately greater than would be requisite to conserve the 1935-36 level of aid, in view of the increase in the number of consumer units and the return of unemployment to the 1935-36 level; so that all in all, it is very probable that the relative aggregate incomes of the brackets did not undergo much change.

This check was particularly valuable because figures extrapolated from 1935-36 to 1938-39, two periods of dissimilar business conditions, would be peculiarly liable to challenge. The depression may in many cases have caused a temporary shifting of consumers into lower income classes, where their expenditures might have continued, through recourse to borrowing or other forms of dissaving, at a level corresponding to their former higher incomes. Anticipations are decisive here, for it is the consumer expectation to return to "normal" that determines his spending pattern. Sharp changes of standards of living are not welcomed, and optimism as to a future restoration of earning power may prevail for years, leading to progressive growth of indebtedness, eventually reflected in property-tax delinquencies, repossessed articles, bad mortgages (between 1929 and 1933 one-third to one-half the outstanding mortgages were defaulted), and bad charge accounts written off by the respective creditors. Once the consumer becomes adjusted to the idea of his new and lower income level and its possible permanence he may seriously revise his budget. It is very probable that the deflationary process sketched above had about spent itself in 1935-36, and that the extrapolation of income figures into 1938-39 gives a figure reasonably close to actuality.

On the other hand, caution had to be used with regard to the high dissavings figure of 1935-36, when the cumulative effects of depression had exhausted personal savings, capital values were still being drastically written down, and, despite the revival of business optimism, unemployment was of a size to keep millions of consumers below their customary income level. The possibly temporary rather than habitual nature of such dissavings—by people who had accumulated a backlog of capital, monetary and real, available for dissaving—should be given due weight, especially in analyzing expenditure patterns of the various income classes and allocating tax burdens. The trend toward loss of homes, both urban and rural, but affecting particularly the low income farm groups (*cf.* 9.1 percent increase in farm tenancy from 1925 to 1935) had been definitely reversed by 1938-39 by the various housing and tenancy programs.

2. *Savings*.—The correction for these features of the depression was introduced by a diversified approach in estimating the savings of various income brackets. In view of the above considerations, dissavings were cut down more than proportionately by assuming

that the lower income brackets used most of their additional income to avoid further increases of indebtedness; however, the continued existence of net dissavings in the two lowest income brackets (incomes under \$1,000) allows for the National Resources Planning Board's definition of "negative savings" as including increases in installment payments due, mortgages, charges, and notes due. For the lower and middle incomes (under \$2,000), therefore, gifts and direct taxes were treated as reducing net income available for spending.

Net consumer savings (savings less dissavings) were assumed to have risen more than the national income, on the basis of rising incomes. The computation by income brackets produced a figure corresponding to the probable total savings indicated by several independent estimates. These check figures were based on—

(1) The rate of increase in savings as evidenced in a comparison of a score of forms of saving;

(2) The National Resources Planning Board's *Structure of the American Economy* figure of \$9,000,000,000 under the hypothesis of the national income's rising by units of \$10,000,000,000.

The checks were the more impressive in that in the highest income brackets expenditures rose more than did savings, since it was assumed that persons in these brackets paid taxes and made gifts out of that part of increased income, which would otherwise have been saved. (See table XII.) The conclusion that increased taxes were paid by reducing the percentage of savings is supported by the replies to private questionnaires sent out by Congressman Bruce Barton in late 1939 to a sample of families in the \$6,000 to \$40,000 income classes. He inquired where they would cut expenditures if income taxes were raised 10 percent. Only half of those replying admitted the necessity of making cuts, and of those 53 percent said they would lessen savings. Thus, 75 percent of the upper brackets intimated that they paid additional taxes out of savings. A further number (the percentages as to fields for cutting overlap, of course, since some of the families would split their economies over several fields of expenditure) planned to economize on renovation of houses and additions to them, or not to increase life insurance. Without passing any judgment here as to the general economic effects of lesser expenditures in these fields, it should be pointed out that these, too, are regarded as savings in the National Resources Planning Board study, and the questionnaire's results therefore bear out the approach used in this monograph.

B. VALUE ADDED BY MANUFACTURE

A number of business cost taxes have an incidence which is very problematical and possibly variable. Such taxes may be absorbed by the business paying them, passed to another branch of business, shifted back to wages, or forward to the consumer, but it was necessary to make a preliminary allocation to the business initially paying them.

This allocation was based upon the income produced by each of eight branches of industry, as given by the Department of Commerce.

The National Resources Planning Board used the same figures in its *Structure of the American Economy*, 1935-36 (although it introduced certain minor modifications described on p. 378 of the publication). The branches are agriculture, mining, manufacture, utilities and transportation, construction, trade, finance, and services to the

consumer—plus a small item labeled miscellaneous. Government "income produced" was deducted, since it carries no tax burden. Employers' Social Security taxes were added to the figures of income produced by each sector.

The Commerce figures segregate income produced on the industrial basis desired for this study. They had to be supplemented for tax allocation purposes, however, by data from the *Statistics of Income*. This source classifies corporate returns according to the main business of a corporation, although it may conduct many diverse operations in other industries. These inconsistencies should at least be recognized and adjusted when possible. Furthermore, the *Statistics of Income* covers corporate enterprises only. Corporate production totals about two-thirds of the national income produced, but the proportions within different segments of the economy vary from 92 percent of manufacturing to an insignificant part in agriculture.

The preliminary allocation of taxes which follows does not pretend to establish the pattern showing final distribution of the tax burden. But in analyzing new taxes or changes in tax rates, it is important to know by whom the taxes are initially paid, even if they are shifted backward or forward. The process of shifting in itself creates frictions and may affect business methods.² Table V, therefore, only indicates the approximate importance of the taxes which an industry must absorb, pass on, or shift back. It does not represent the tax burden of the particular industry.

C. TAXES

1. Tax classification.

(a) *Personal nonshiftable taxes*.—Personal nonshiftable taxes have already been discussed in previous sections of the report. They include individual income taxes, estate and gift taxes, poll taxes, employees' old-age security contributions, and two-thirds of the personal property taxes. It is justifiable to presume from the very nature of these taxes and the fashion of their imposition that they cannot be shifted and that they are of a personal nature.

Table Ia.—Personal and Specific Consumption Taxes in Percent of Consumer Income,^{1 2} 1938–39

Income classes	Personal taxes		Taxes on specific consumption	
	Federal	State and local	Federal	State and local
	Percent	Percent	Percent	Percent
I. Under \$500.....	1.1	0.2	3.0	4.3
II. \$500 to \$1,000.....	.65	.2	2.9	3.5
III. \$1,000 to \$1,500.....	.7	.3	2.8	3.6
IV. \$1,500 to \$2,000.....	.7	.4	2.8	3.9
V. \$2,000 to \$3,000.....	.6	.5	2.7	4.0
VI. \$3,000 to \$5,000.....	.9	1.0	2.4	3.7
VII. \$5,000 to \$10,000.....	1.7	1.5	1.9	3.1
VIII. \$10,000 to \$15,000.....	3.8	4.1	1.5	2.7
IX. \$15,000 to \$20,000.....	6.7	6.4	1.3	2.3
X. \$20,000 and over.....	18.7	6.9	.8	1.6

¹ See diagram I.

² Unlike tables I and Ib, consumer income here does not include estate, gift, and inheritance taxes, nor corporate income and profits taxes, so that percentages are not directly comparable, particularly in the higher brackets.

Sources: See table I.

³ Cf. Temporary National Economic Committee, Clifford J. Hynning, *Taxation of Corporate Enterprise* Washington, 1940, especially chapters on payroll and corporate income taxes.

(b) *Taxes on specific consumption.*—Taxes on specific consumption goods with an inelastic demand can be shifted to the consumers more easily and with fewer general repercussions than can taxes imposed on all production or sales. A tax on such a commodity can be shifted to its price because the demand is of such a nature that consumers are willing to increase their outlays upon it. Under ordinary circumstances this increase is at the expense of outlays upon the whole range of other commodities or at the expense of saving. Outlays for all commodities at a given income level, however, can be increased simultaneously only at the expense of saving, which is negligible in the income areas that account for most of the aggregate consumer expenditures. For this reason a general business-cost tax cannot be passed forward to price without an increase of total consumer expenditure, which would require conditions of general economic expansion. Otherwise an increase in prices resulting from a rise in business-cost taxes will cause sales to be curtailed and will result in decreased employment. This in turn may lead to a reduction in wages and consequently a backward shifting of the tax. It is on the basis of this argument that a distinction was made between specific consumption and general business-cost taxes.

Table Ib.—All Taxes as Percent of Consumer Income, 1938-39 ¹

Income classes	As percent of income ³			
	Personal taxes ²		Taxes on consumption ²	
	Federal	State and local	Federal	State and local
I. Under \$500.....	1.1	0.2	6.8	13.8
II. \$500 to \$1,000.....	.7	.2	5.9	11.2
III. \$1,000 to \$1,500.....	.7	.3	5.6	10.6
IV. \$1,500 to \$2,000.....	1.0	.5	5.6	10.8
V. \$2,000 to \$3,000.....	1.0	.5	5.3	10.6
VI. \$3,000 to \$5,000.....	2.3	1.1	4.7	9.5
VII. \$5,000 to \$10,000.....	4.8	1.8	3.7	7.7
VIII. \$10,000 to \$15,000.....	12.1	4.5	2.9	6.1
IX. \$15,000 to \$20,000.....	17.3	6.6	2.5	5.2
X. \$20,000 and over.....	25.5	7.0	1.6	3.6
Total.....	4.3	1.4	4.9	9.6

¹ See diagram II.

² Same as in tables I and Ia.

³ See note 2 to table Ia.

Sources: See table I.

Specifically, taxes can be regarded as falling directly on consumption when they are levied on selected finished products for final consumption, whether collected at the source, as manufacturers' excises, or directly from the final consumer, as on gasoline. But in allocating such taxes to consumer expenditures, it is important to get the net amount by first deducting excises passed on to intermediate forms of business (other than distribution) and shifted only indirectly to consumers, via services or transformed goods. As an example, gasoline and other automotive taxes paid by trucks and busses may be cited. If these levies are passed on to the consumer of transportation, they can be passed on only in the form of price for the service, and not directly. Such levies on taxicabs and on private cars used for business purposes (as by salesmen, realtors, doctors, etc.), ought also be relegated to the class of business taxes, but a lack of adequate data on these distinct uses of "passenger cars" precludes this accuracy. Similarly, the Federal tax on bituminous coal can be passed on to the buyer of such coal in full, even though it is included in the price so

that he is not conscious of it. But if a railroad buys the coal, bears the tax, burns the coal for energy, and shifts the tax as one of many components in the price of a passenger ticket, it is a business and not a specific consumption tax.

Most Federal excises were treated as taxes on specific consumption; exceptions were made for a third of automotive taxes, four-fifths of those on utilities, and small portions of a few other levies on products which are partly bought by industry itself either for transformation (processed vegetable oils) or sale of its service (toilet preparations). The distribution of automotive taxes was based on figures of the Automobile Manufacturers' Association, which show that for the last few years a fairly steady proportion of one-fourth of total Federal automotive excises (including gasoline) were paid by trucks. This ratio was raised to one-third to cover busses and cabs, but even the corrected amount may still have overvalued the direct consumer share.³ Of the electrical energy excise, one-fifth was regarded as a consumers' tax on the basis of the exact ratio between sales to residential consumers plus half the sales to farms (many of which are supplied by publicly owned plants) and total sales. (See *Statistical Abstract*, 1938.)

Many State and local imposts were likewise included as specific consumption taxes. Among them are gross-receipts taxes on amusements, selective sales and other taxes on tobacco, all alcohol taxes, motor-vehicle licenses (except for the share of about a third imputed to transportation) and other taxes.

The proper treatment of customs was somewhat puzzling. It would have been correct to allocate to this classification customs duties paid by people importing products for their own use and duties on finished consumption goods intended for sale to ultimate consumers, while duties on commodities to be subjected to further manufacture would then be classed as business taxes. However, data are not published in this form, so a rough distribution was made among trade and agriculture,⁴ and specific consumption, under which were grouped duties on foods, tobacco, and alcoholic beverages, as shown in table II.

Table II.—The Distribution of Customs Duties by Type of Import

Item	1935-36	1938-39
Total customs duties.....	\$408, 127, 000	\$318, 352, 000
To agriculture (30 percent) ¹	122, 438, 000	95, 056, 000
On foods.....	131, 150, 000	102, 636, 000
On tobacco.....	25, 243, 000	23, 927, 000
On spirits, wines, and liquors.....	43, 589, 000	34, 206, 000
Total.....	322, 420, 000	255, 825, 000
On trade.....	85, 707, 000	62, 527, 000

¹ See text, pp. 14 and 22f. and footnote 4 on this page.

Source: *Annual Report of the Secretary of the Treasury*, 1939, pp. 385-388.

³ The same source estimates 62 percent of passenger-car mileage as being for business purposes, which would indicate consumer-paid motor-vehicle taxes to be overestimated in the present study. However, it was felt preferable to give a minimum estimate for such business-paid taxes on the basis of actual figures rather than an estimate which does not account for actual gasoline tax and registration fee costs.

⁴ The attribution of 30 percent of customs receipts to agriculture is admittedly a procedure of expediency. Detailed studies tracing the shifting of tariff duties have been made, but only for specific products. (Cf. Lippert S. Ellis, *The Tariff on Sugar*, Raleigh Foundation, Freeport, Ill., 1933; Haldor R. Mohat, *The Tariff on Wool*, Tariff Research Committee, Madison, Wis., 1935.)

The 30 percent was the figure arbitrarily selected as the proportion of customs receipts to be allocated to the Department of Agriculture in order to compensate farmers for their higher costs due to other tariffs. In the final allocation of all taxes as carried out in this study, the precise distribution of customs receipts among branches of industry (aside from duties considered to be inevitably levies on specific consumption) is of no moment; it is important only for the intermediate allocation of business taxes to branches of industry.

A further problem of tax distribution inherent in the levy itself was in the analysis of general property taxes. These taxes are a conglomeration of imposts on real and personal, tangible and intangible property. Coverage, assessment methods, tax rates, and exemptions vary from community to community without fiscal logic, and data are most unsatisfactory, since they are either so comprehensive as to embrace all variants of property taxes, regardless of comparability, or else strictly limited, usually on a basis that does not permit extension of estimates.

The part of property taxes imposed on residential real estate was treated as a specific tax on consumption, i. e., on housing. Therefore, an estimate had to be made of what part of the general property tax is derived from the taxation of residential housing. Preliminary to that, even the broad distinctions between personal and real property taxes, between the share of taxes paid by farmers, by home owners, and by business, had to be made by way of approximation. For the purpose of the present study, the Department of Commerce, in cooperation with the National Association of Real Estate Boards, conducted a questionnaire survey in early 1940 to obtain data on the above problems, covering a representative sample of urban and a few rural communities.⁵ Barely half the Boards completing these schedules were able to answer the question—and mostly on the basis of expert estimates—as to the relative proportions of general property taxes that were paid on real property generally, on residences owned and rented, and on all business real property. However, certain local studies of a thorough nature made under the auspices of the W. P. A.,⁶ and Census data combined in various ratios, all served as checks on the results derived from the sample study.

The Commerce survey bore out the surmise founded on the spot studies that the share of taxation on residential property to be imputed to the owner-tenant, to the owner who rents out his property (business), and to his tenant, depends largely on local circumstances and housing conditions. Data on farm homes and taxes are more complete, but their use is equally difficult because they show levies and not actual tax collections. Tax delinquencies in the "good" year 1939 still amounted to about 10 percent of taxes levied on general property and always vary sharply as between communities and types of property. (In 1936 delinquencies were near 14 percent.)

The total tax on residences was computed to be over \$1,200,000,000, or 34.3 percent of all real-property taxes. This is a minimum figure and is lower than the median and average of the sample survey, which, however, contained a predominance of middle-sized and small cities, with only 2 big cities represented among the metropolises, at least as regards the completed schedules. In view of other calculations and spot studies, and the trend toward homestead exemption, the low value of farm homes, lowered assessments and, often, limitations on tax rates, it was felt inadvisable to select any higher percentage.

(c) *Business taxes.*—Business taxes, as distinct from specific consumption taxes, include all taxes which are directly or indirectly imposed on business as such and not on specific consumers' goods. To this category belong corporate income, capital stock, and license taxes; the part of property taxes imposed on business, and all kinds

⁵ See the questionnaire and a preliminary summary of results in appendix 1 v.

⁶ See bibliography; also Work Projects Administration, Division of Social Research, *Urban Housing*.

of taxes imposed on specific cost factors, such as pay roll taxes; and, finally, taxes on products used by business, as on minerals, on imported raw and semi-manufactured materials, and on trucks, railroads, and utilities. (See table IV.)

(1) Corporate income taxes: Corporate income taxes are a problematical item for economic classification. There would be good reason for including them among the direct taxes on individuals. It might be assumed that corporate income taxes cannot usually be shifted and do result in a curtailment of corporate profits available for distribution to stockholders or for the accumulation of surplus. They thus lead to a reduction of dividends or else of the equity value. In both cases the impost falls on the stockholder. It may even be that under some circumstances corporate income taxes can be shifted. In industries subject to regulation (e. g., railroads) the regulating authority often considers income taxes in determining what a reasonable price is, or measures a reasonable rate of return by profits after taxes. In the final allocation (diagram III) of all taxes to individual consumer units, corporate income and profits taxes have in fact been treated as taxes on the stockholder. (See subsection 3 (a).) However, there are several good reasons for regarding these taxes, at least in the intermediate stage, as falling on business. In an attempt to show the total taxes paid by business, the corporate income taxes should not be excluded.

If corporate income tax rates are graduated, the direct allocation to stockholders of various income brackets is very difficult, because the progressiveness of the corporate income tax does not necessarily correspond at all to the income brackets of dividend receivers; i. e., a large and profitable corporation paying the highest corporate income tax rate may have its dividends going to small holders of one or two shares, in whose salaries dividend income plays a minute role. A further consideration is that preferred stock dividends must be paid regardless of the profit earnings, and if they are paid in full, the preferred stockholders in effect pay none of the corporate income and profits levies, which fall entirely upon the common stockholder.

(2) Other business taxes: The inclusion of part of excise revenues has already been sufficiently discussed under taxes on specific consumption. Further, all State and local utility taxes, miscellaneous State selective sales taxes, local sales and excise taxes, local "other" taxes, and general sales taxes were in the first instance regarded as levies on business.

Although general sales taxes are frequently shifted to the consumer, the process is not inevitable. Even if, in the eyes of the law, the buyer pays the tax on a purchase, he may actually be paying a price lowered sufficiently to compensate him for his seeming tax burden, so that the tax in reality is paid by the seller, or perhaps shifted even further back to his supplier. It is because of the uncertainty of their incidence that sales taxes are attributed to this group in this intermediate stage of allocation.

All non-residential real property taxes are regarded as business taxes, since agriculture is included as one of the industrial sectors.

2. *Tax allocation.*

Tax allocation, being a step beyond simple classification, offers further problems for solution. Yet, as was said in part I, that is the very distribution required for adequate analysis of tax significance.

(a) *Personal taxes*.—The allocation of taxes to the 10 consumer income groups involves problems of varying significance and difficulty. The National Resources Planning Board gave figures for personal taxes and gifts in 1935–36, which were used for deriving a figure for gifts in 1938–39; but in allocating taxes for the same year original data were used. Gifts were regarded in the National Resources Planning Board study, and also in the present one, as reducing the amount available for expenditures in the lower brackets, for savings in the higher brackets. (See pp. 9, 43.)

For 1938–39, individual income taxes (both Federal and State) were allocated in line with the percentages paid by the corresponding income brackets shown by the Treasury publication *Statistics of Income*. Although the tax returns are legally for individuals, while the National Resources Planning Board study uses consumer units, the margin of error involved in this simple method of allocation is small, since in actual fact income tax returns in the lower brackets are mostly made out for families or individuals living alone.

There are a considerable number of separate returns for husband and wife in the upper brackets, so that the application of tax payment percentages from *Statistics of Income* to family incomes may lead to a slight underestimation of tax progression.⁷ On the other hand, the \$5,000 intervals in consumer incomes over \$5,000 provide considerable leeway for combined incomes to fall into a proper bracket, while rates up to the final limit of \$20,000 are not steep enough to cause serious distortion in allocations. Moreover, no further adjustment is made for tax evasion than was made by the Board in developing its basic figures, so that any exaggeration in progression shown is automatically compensated, at least in part.⁸

The slight revenue of poll taxes was distributed according to the number of consumer units in each income class over \$500, on the assumption that such levies had the effect of disenfranchising the poorest, as has long been complained. Employees' old-age insurance contributions were allotted to the six brackets below \$5,000 on the basis of a Social Security Board analysis of such payments.⁹ Estate and gift taxes, on the other hand, were allocated to income classes above \$5,000. This upper limit for social security taxes and low limit for estate and gift taxes, each one rather abrupt in itself, makes for a smooth transition when the two taxes are applied in combination. It should be noted that death taxes were added onto total income (because excluded from the National Resources Planning Board consumer incomes) to get the figure on consumer incomes which has been used in estimating personal tax percentages.

The technical difficulties of allocating aggregate death taxes to income brackets are obviated by high rates of specific exemption and additional deductions allowed, which make it plausible to presuppose that very few receivers of income under \$5,000 would pay this tax. The share of these few would be too small to consider. The same ar-

⁷ See appendix V, p. 44f.

⁸ Aggregate tax payments were distributed in proportion to the percentage paid by each income group as shown in *Statistics of Income*, so that if separate returns were made by husband and wife, the income of each would fall into a lower income bracket than justified by the joint income of the two as a "consumer unit." Therefore, a portion of individual income taxes paid is allocated to a lower bracket than is proper on the basis of family income.

⁹ *Social Security Bulletin*, April 1939, J. R. Arnold and M. J. Wasserman, "Old-Age Insurance: Covered Workers and Average and Median Taxable Wages in 1937," p. 4. The article shows a small aggregate of payments for an open-end class over \$3,000. See appendix V, p. 46, regarding adjustments.

guments apply to gift taxes but with even greater force, since taxable gifts are made primarily by those large estates which are above the specific estate tax exemptions.

Finally, personal property taxes were distributed; the part presumed to be collected on tangibles was allocated according to partial expenditures on durable consumer goods; the part levied on intangibles was assumed to be paid in line with the stockholdings of various income brackets. The proportions of such holdings were developed by interpolation of figures derived by the Twentieth Century Fund as is described more fully in part C, section 1, of this chapter. These taxes are definitely paid directly by the property owner, unlike the estate and gift taxes which, for the purpose of the study, are only presumed to be thus paid, and probably come out of the additional capital or windfall gain furnished by the legacy.

(b) *Specific consumption taxes*.—Specific consumption taxes are likewise shown as a percentage of income, although they must first be proportioned to expenditures in order to obtain their distribution.

In allocating them to income brackets, the 1935-36 ratios of expenditures on each type of commodity were taken as the base to which the appropriate taxes were allotted. It is assumed that even over time the relative percentages spent on various products scarcely change; this assumption is fully confirmed by numerous studies showing the sluggishness of change in consumer habits over decades (and across oceans).¹⁰ Since the proportion of families and single individuals in each income group was assumed unchanged from 1935-36, data from the *Consumer Expenditures* (tables 22A and 31A) study were used, as they show aggregate expenditures of all consumer units in millions of dollars and in percentages.

In allocating specific consumption taxes to income brackets, the implicit assumption was that taxable expenditures within a field remain in constant ratio to total expenditures for that field of goods or services. Exceptions to this were specifically provided for in the allocation of personal property taxes and liquor taxes, and the possibility of sizable error due to this procedure is particularly stressed in the allocation of automotive and residential property taxes and is indicated for certain other fields. The possibility of error, however, did not lead the author to make adjustments which would, perforce, have been based on even more hypothetical assumptions than was the actual method. The accuracy of the results (and it must be repeated that the study has been aimed at developing an approach and discovering gaps in materials, rather than at mathematical precision) then depends on whether the errors were additive or multiplicative, and if the former, to what extent they canceled each other. Where compensation was to be logically presupposed, it has been pointed out; so, likewise, have the more important sources of possible error been indicated. For example, the unsatisfactory breakdown of excises probably flattened the curve of regression. (See table III.)

¹⁰See W. H. Lough, *High-Level Consumption*, 1935.

Table III.—Specific Consumption Taxes, 1938-39

Income classes	Taxes on specific consumption plus business taxes shifted to consumption		
	Millions of dollars	As percent of expenditure	As percent of income ¹
I. Under \$500.....	486	16.9	20.6
II. \$500 to \$1,000.....	1,716	17.4	17.1
III. \$1,000 to \$1,500.....	1,999	18.0	16.3
IV. \$1,500 to \$2,000.....	1,672	18.4	16.4
V. \$2,000 to \$3,000.....	1,939	18.7	16.0
VI. \$3,000 to \$5,000.....	1,099	18.8	14.4
VII. \$5,000 to \$10,000.....	554	18.9	11.8
VIII. \$10,000 to \$15,000.....	200	19.2	9.9
IX. \$15,000 to \$20,000.....	124	19.2	8.8
X. \$20,000 and over.....	328	19.0	5.7
Total.....	10,117	18.2	14.8

¹ Corporate income taxes are excluded in this table. See table Ib for consumption taxes related to income including corporate income taxes.

Sources: *Annual Report of the Secretary of the Treasury*, 1939; Bureau of the Census, State and Local Government *Special Study No. 7*, Revised, "State Tax Collections for the Fiscal Year 1938-1939"; and estimated.

The unavailability of statistics on taxicabs and business use of cars has already been commented on, and their exclusion would probably reduce the proportion of taxes paid by the four upper brackets. Likewise, a breakdown between expenditures on new cars by various price classes, as against spending on gasoline, might well sharpen the regression considerably.

All taxes on food (including customs, the Sugar Act levy, and Federal excises) were distributed on the basis of total food expenditures by each class. Nuisance and luxury taxes and manufacturers' excises were similarly prorated on the basis of expenditure on household necessities and recreation, although an exception was made for certain luxuries, such as box seats, etc., which were imputed to the four top brackets only. Tobacco taxes, of course, were likewise allocated on the basis of tobacco consumption.

The almost complete absence of data regarding consumption of alcoholic beverages (they were included as "beer, etc." under "food" in the National Resources Planning Board schedule) means that it is impossible to allocate accurately over one-half billion dollars worth of Federal liquor taxes, and about \$250,000,000 worth of State excises. In view of their fiscal importance this problem cannot be disregarded.

Distribution of such taxes in proportion to food expenditures would imply that, whatever one's family-size income, expenditure level, or geographic location, a fixed proportion of food outlays goes for alcoholic beverages—an assumption wholly unjustified in a nation where wine and beer are not normally regarded as part of the meal. To assume that expenditures on liquor are made solely by people "who can afford luxuries" is likewise contrary to fact. Consideration was therefore given to the facts that a large proportion of low incomes goes for food,¹¹ that a greater proportion of larger families is found in the

¹¹ See Department of Labor, *Study of Consumer Purchases*, 1935-36 series; also Maurice Leven, Harold G. Moulton, and Clark Warburton, *America's Capacity to Consume*, The Brookings Institution, Washington, 1934; and W. H. Lough, *High Level Consumption*, 1935, pp. 236 ff.

lower-income groups, with correspondingly larger outlays on foods;¹² that the National Resources Planning Board combined home and restaurant expenditures in the published tables, so that a distortion might exist in the direction of higher food expenditures by high income brackets than should be accounted for by food alone—i. e., that highly taxed liquor might be a greater proportion of food outlays in the higher incomes than in other income groups; that, however, higher-income groups do not necessarily increase their liquor consumption in the same proportion that other items of expenditures are raised with a larger income. In view of all these circumstances, an arbitrary compromise was adopted, with half of liquor taxes being proportioned to food expenditures and half to recreation.

Tentatively, taxes on residences, excluding farm land and business property, were classified by income groups on the basis of amounts spent for housing. Under the assumption that all residential property taxes are paid by the user, whether owner or tenant, the tax on housing rose proportionately as aggregate housing expenditures increased with a rise in total expenditures.

This procedure may have led to an overestimate of the indirect taxes paid by the upper income brackets. However, the error was at least partly compensated by the trend during the last several years to grant total or partial property-tax exemptions to homes below a certain value. Such an allocation presupposes that residential property taxes are passed on to ultimate consumers, and completely ignores the possibilities of tax capitalization. A special appendix III describes this alternative. It may be mentioned here that regardless of the final disposition of the property-tax burden, it remains an annual outgo for the home owner, to be paid out of other income, and an increase in such taxes has the identical economic effect that any other tax payment by the same consumer unit might have, until a new owner acquires the property at a lower price.

The question of taxes passed on in rentals to low-income groups, and ignorance as to the aggregate proportions of homes owned and rented in such groups, further complicates the allocation. The results of the 1940 Housing Census will be invaluable in clarifying these matters, although some very interesting WPA studies have already shed light on this matter for particular localities.

(c) *Business taxes allocated to sectors of the economy.*—The intermediate allocation of business taxes to the various branches of industry involved no question of income, but rather of industrial classification of taxes and, for general taxes on business, an investigation as to the relative shares paid by each. These general taxes include corporate income and profit levies, capital-stock taxes, employers' Social Security taxes, State corporate and general business taxes, and the business share of Federal excises and customs and of State and local general property, excise, and license taxes.

Statistics of income for corporations were used as a basis for the allocations of income and profits taxes by industries. Since the capital-stock tax is in reality an alternative to the excess-profits tax, even if not so treated in the *Statistics of Income*, it was included with excess-profits taxes.¹³ The income produced (see table V) includes

¹² *Consumer Incomes in the United States*, pp. 20-22-97. It should be further noted here that a larger portion of food expenditures in the lowest brackets are "imputed" expenditures on food grown and consumed by farm families.

¹³ Cf. Temporary National Economic Committee, Clifford J. Hynning, *Taxation of Corporate Enterprise*, Washington, 1940.

the net income of corporate and noncorporate enterprises, while only corporate income taxes are reported as business taxes. Income taxes paid on income derived from proprietorships and partnerships are directly allocated to the individual incomes of the businessmen. The latest data available, for 1937, were used in calculating the percentages of these taxes paid by the various sectors of industry, perforce assuming little change in the proportion paid by each sector, and the absolute amounts for 1938-39 were attributed to the appropriate industrial sectors. State corporate income and profits taxes, which amounted to little (\$113,000,000) were distributed in the same proportions.

To distribute nonresidential real-property taxes pro rata among the industrial sectors would be of doubtful propriety, since income produced by each sector may bear no relation to its property (viz. services). On the other hand, a straight allocation to wealth would likewise be unreasonable, since wealth estimates are very questionable, and not related to rates assessed by each locality on real wealth located in its jurisdiction.

A compromise figure for 1935-36 was reached by means of a rather intricate process involving national wealth, income produced after the exclusion of agriculture, and other data available. The 1938-39 distribution was made with the same ratios. The figure of \$1,186,000,000 in business real-property taxes fits in well with the Dun & Bradstreet¹⁴ total of \$581,000,000 for manufacturing and trade alone, of which part was personal property taxes. Tax exemptions on the property tax, however, vary widely and reduce the trustworthiness of classified tax incidence estimates. With many States, especially in the South and now in New England, too, offering tax reductions and exemptions as a special inducement to manufacturers, any proportionate distribution of tax totals is thrown askew. Since each State and locality has its own practices in these respects, evaluation of totals becomes even more a matter of hypothesis.

The relatively small revenue of personal property taxes on business (totaling \$273,000,000) was prorated among agriculture, mining, manufacture, utilities construction, and services, in accordance with their holdings of wealth less the amount assumed to be real property.¹⁵

The special business taxes which affect primarily a particular field of industry can be distributed rather simply. The following allocations are self-explanatory: Federal, State, and local automotive levies on trucks, busses, and cabs were attributed to transportation (included with utilities).¹⁶ Four-fifths of the Federal excises on electrical energy, excises on communications, special property taxes, which are usually levied on utilities, State gross-receipts taxes on utilities, and the Federal employment tax on carriers were all classed as taxes on utilities and transportation. State severance taxes and

¹⁴ *A Survey of Taxes Paid by Business in 1938*, Dun & Bradstreet, New York, December 1939.

¹⁵ See National Resources Planning Board, *Structure of the American Economy*, pp. 374-77.

¹⁶ This distribution makes no allowance for such taxes paid by trucks owned by other types of enterprises and used within the business. Such a figure would lessen the ratio of taxes to value added by utilities. Although partial figures, covering fewer than one-fourth of the 4,000,000 trucks registered, are available on the number of trucks in various lines of business, no attempt was made to allocate the business taxes on motor vehicles any further. Over a third of the nongovernment trucks for which the breakdown is made are express, haulage, or utility or railroad-owned trucks. Yet 60 percent of all truck trips are under 10 miles in length, so that it may be assumed that the mileage of commercial trucks is far higher than is their proportionate number. (See *Automobile Facts and Figures*, pp. 42 and 71.) This fact would considerably raise their share of gasoline taxes paid. Furthermore, interstate trucks pay much larger and more varied registration fees, so that their share in such levies would be much more than proportionate. Since the business-tax estimates are an intermediate stage not directly affecting final tax shifting, it was thought advisable not to attempt a very questionable distribution of gasoline and motor-vehicle taxes on the basis of these relationships.

the Federal bituminous coal fee naturally were allocated to mining. Federal stamp and various bank taxes and State documentary and insurance company levies were all attributed to finance. "Other" State licenses were attributed to services, since such unspecified licenses are frequently of a regulatory nature.

Table IV.—Taxes Paid by Sectors of Industry

Sector of industry	Federal				State and local					
	Corporate income ¹ and profit	Social Security ²	Customs	Excises	Corporate income	Gross receipts	General sales	Selective sales and licenses	Specific property ³	General property ³
Agriculture.....	X	X	X							X
Mining.....	X	X		X	X			X		X
Manufacture.....	X	X		X	X		X			X
Utilities ⁴	X	X		X		X		X	X	X
Construction.....	X	X			X					X
Trade.....	X	X	X		X		X	X		X
Services.....	X	X		X				X		X
Finance.....	X	X		X	X			X		X
Miscellaneous.....	X	X								X

¹ Includes capital stock taxes.

² Includes State payments.

³ Includes both real and personal property.

⁴ Including transportation.

Table V.—Business Taxes as Percent of Income Produced, 1938-39

[All money figures in millions of dollars]

Sectors of industry	Income produced	All business taxes ^{1 2}		Taxes as percent of income		
		Federal	State and local	Federal	State and local	Total
Agriculture.....	5,623	104	1,226	1.8	21.8	23.6
Mining.....	1,120	109	128	9.7	11.4	21.1
Manufacture.....	13,660	1,165	669	8.5	4.9	13.4
Utilities ³	6,810	732	1,012	10.8	14.9	25.7
Construction.....	1,852	55	15	3.0	.8	3.8
Trade.....	9,268	474	759	5.1	8.2	13.3
Services.....	8,534	131	307	1.5	3.6	5.1
Finance.....	7,685	237	270	3.1	3.5	6.6
Miscellaneous.....	1,320	8	35	.6	2.7	3.3
Total.....	55,872	3,015	4,421	5.4	7.9	13.3

¹ Part of the Federal excise on toiletries was also included here to cover their commercial purchase for sale in the shape of service.

² See table IV for the precise taxes included as business taxes.

³ Including transportation.

⁴ After the completion of this study, a report by the Tax Policy League came out on *Tax Yields 1939*. This publication shows taxes at \$13,794,718,327, lower by almost \$200,000,000 than the estimate of the present study. The discrepancy is due entirely to the difference in methods of estimating general property tax receipts.

Sources: See appendix table E for tax sources in detail. Income produced is from the *Survey of Current Business*, June 1939, and the Department of Commerce release of Jan. 28, 1940, on income payments to individuals.

Customs receipts on products other than food and tobacco were divided between agriculture and trade, with 30 percent of total customs attributed to agriculture. This percentage was selected because of the implication that agriculture is discriminated against to this amount, found in the legislative provision allowing at least

30 percent of customs revenues to be used by the Secretary of Agriculture for compensating the farmer. To trade were further attributed "other" State selective sales taxes, chain-store licenses, local sales and excise taxes, and the larger portion of State general sales taxes. A share of these was treated as paid by manufacturers; the proportion was obtained from Dun & Bradstreet's *A Survey of Taxes Paid by Business* in 1938 (*op. cit.*) which indicated a ratio of 1 to 1.2 for such taxes paid by manufacturers and by trade (retail and wholesale). Although this ratio includes both sales and excise taxes, which are separately allocated in the present study, the ratio was applied, because it provided a correction for not allotting any of the State and local licenses to manufacturing.

3. *Tax shifting.*

The pattern induced by the shifting of taxes depends on various nonfiscal considerations. The directions in which various business taxes are shifted probably fluctuate constantly, according to business conditions, competition, demand, general income levels, and even fashion. Although most manufacturing industries and much agriculture compete on a national market, their State distribution is likewise important in analyzing the fashion in which taxes are shifted. First, some industries, either by their nature (services; residential construction, some perishable foodstuffs), or through pressure and legislative restraint (milk in agriculture, the independent grocer in States with an anti-chain-store bias) have a limited local or regional field of action, with little outside competition, and it is the local residents who are primarily affected by tax shifting. Secondly, there are taxes, such as those on transactions, severance of natural resources, etc., which are imposed locally on all business of the community or region, and their incidence and transfer may not affect customers or employees elsewhere of companies active in such a region. But the figures by States and by industrial branches are not always congruent, and estimates must be resorted to to make them agree fully. In view of these limitations, it is obvious that no determinations of tax incidence can be absolute for any length of time; so that it was felt more useful to show hypothetical patterns that might be expected to appear under the extreme assumption of all taxes shifting to the consumer. This assumption was varied once by assuming a shift of all business cost taxes backward to wages. (See sec. c following.)

(a) *Corporate income and profits taxes.*—Corporate income taxes (as well as excess-profits and capital-stock taxes) were allotted to income brackets in direct ratio to the stockholding of the respective brackets.¹⁷

Such a procedure implies that securities held in all brackets do not differ with respect to the profitability of the respective corporations, and therefore yield a tax proportionate to security holdings. While there is no data showing direct correlation among the income brackets of security holders, on the one hand, and the profitability of the respective corporations and the taxes imposed, on the other, yet the assumption seems to be valid when one deals with aggregates, par-

¹⁷ Derived from figures cited by Colm and Lehmann in "Economic Consequences of Recent American Tax Policy," *Social Research Supplement I*, N. Y., 1938, p. 46. Their estimates in turn were made on the basis of income-tax statistics and estimates by the Twentieth Century Fund, *The Security Markets*, N. Y., 1935.

ticularly in view of the broad intervals (of \$5,000) into which these income classes are grouped.¹⁸

The assumption that business taxes in general are shifted to consumers in the form of prices does not apply to corporate income and profits taxes, which, in view of their dependence on earnings, are not ordinarily regarded as cost factors. Nevertheless, the possibility of their being passed on in exceptional cases must be kept in mind. To the extent that they are passed on, the progressiveness of the tax structure in the upper part of the income pyramid is materially reduced.

In the final allocation of business taxes the corporate income taxes are added to the personal incomes of the respective brackets as well as to the taxes borne by these income brackets. All undistributed corporate profits should be added to and corporate losses deducted from personal incomes as the basis for a final allocation. In view of the fact that undistributed profits and losses were almost equal, both were ignored; the corporate taxes were added to the income basis because otherwise these taxes would have been related to an income figure which included corporate profits only after deduction of taxes.

(b) *Taxes shifted to consumption.*—Other business taxes, however, were considered as definitely shifted to the ultimate purchaser and were allocated to consumer income in the same fashion as were the "levies on specific consumption." That is to say, they were made proportionate either to total expenditures or to spending on specific goods or services. Most of them, however, due to the very fact that they could not be directly allocated to any branch of consumer spending in the first place, were distributed in ratio to total consumers' expenditures. For example, even the taxes known to be imposed on railroads could not be allotted in proportion to travel, since 90 percent of American railroad business is freight, and there is no information as to the proportions of such taxes entering the cost of manufactured food, of farm products for export and for home consumption, of heavy raw materials for use in producers' machinery, in durable consumption goods, in fuel, for passenger travel. Similarly, the exact incidence of the many other taxes falling on industry at various stages of production can scarcely be traced.

The sole exception to this was the distribution of general sales taxes. Just as the Dun & Bradstreet survey (*op. cit.*) allowed a rough allocation between manufacturing and trade, so, many studies, both local and general, give a comprehensive and fairly consistent picture of the sales-tax yield on various products identifiable with fields of expenditure shown in the National Resources Planning Board study.

The average proportions used are shown in table VI, derived from a series of local, State, and Work Projects Administration analyses of sales-tax receipts. These figures are corroborated by estimates in several States and agree in general with Jacoby's estimates.¹⁹

¹⁸ The Department of Commerce initiated a sample study of the composition of estates, the results of which will shed some light on the relationship between the size of estates, on the one hand, and the type of corporations in which securities are held, on the other hand.

¹⁹ Neil Jacoby, *Retail Sales Taxation*, Chicago, 1937.

Table VI.—Estimates of State Sales Taxes Paid by Commodity Groups

Commodity group	Average percent-ages ¹	Taxes paid (in millions of dollars)—		
		1937 ²	1938 ³	1939 ⁴
Foods.....	23.5	\$101.3	\$105.9	\$103.9
Apparel.....	6.0	25.9	27.0	26.5
Building.....	4.2	18.1	18.9	18.6
Furniture.....	3.8	16.4	17.1	16.8
Automobiles.....	11.9	51.3	53.6	52.6
General merchandise.....	16.5	71.1	74.4	72.9
Amusements.....	2.3	9.9	10.4	10.2
Miscellaneous.....	23.8	102.6	107.3	105.3
Utilities ⁵	8.0	34.5	36.1	35.4
Total.....	100.0	431.0	450.7	442.3

¹ Based on: State of Utah (with assistance of the WPA) *Report of the Subcommittees on the Homestead Exemptions Proposal and Taxation*, October 1936, p. 117, "Sales Tax Collection by Groups." The percentages of the 4 States given (California, Kentucky, Ohio, and Utah) were averaged after adjustment for the exclusion of utilities and amusements from the California and Ohio tax.

² U. S. Bureau of the Census, *Financial Statistics of States*, 1937.

³ *Tax Policy*, January 1940.

⁴ U. S. Bureau of the Census, State and Local Government *Special Study No. 7*, Revised, "State Tax Collections, Fiscal Year 1938-39."

⁵ The sales tax on utilities was excluded from the final tax allocations. The percentage is probably too high, as some States do not tax utilities; on the other hand, "miscellaneous" would include sales taxes in some States on other commodities which do not belong in a retail sales analysis, so that the deduction of 8 percent is probably a fair one.

But sales taxes need not always be passed on to the consumer; they may be, in reality, absorbed by the seller (or passed backward to the producer) who, if compelled by law to charge the consumer for the tax, may simultaneously lower his price. Such is the conclusion reached in a special study made in the Department of Commerce, ²⁰ which indicates that prices are only slightly affected even by the general sales tax when it is legally transferred to the consumer. Of course, it is always possible that without the sales tax prices would have declined.

Jacoby's statement that retail sales taxes at large reach less than 60 percent of consumer expenditures agrees with the relationship found between consumer expenditures and sales-tax collections (making allowance for the increase in use taxes, lessened evasion, and in some cases stiffening of rates) and with the various calculations of net sales-tax burden hovering at about 1½ percent. The present calculations also apparently support conclusions as to the extreme regressiveness of such taxes when they are passed on to the consumer.

(c) *Taxes shifted to wages.*—To take the opposite extreme, if it were assumed that all business taxes except those on corporate income and profits and on agricultural real property were shifted backward to wages, the general pattern of taxes as a percentage of income would be conserved but with an even more regressive bent. The lowest tax percentage would be about 12 percent of the consumer income of the \$5,000 to \$10,000 bracket. The steep regression would begin with taxes taking 25 percent of incomes under \$500, assuming that the taxes were shifted in proportion to the Social Security Board percentages of taxable wages in each income bracket.²¹ Since these data

²⁰ Warburst, H. P., *The Effect of the General Sales Tax Levies on Retail Sales 1935-36*, Bureau of Foreign and Domestic Commerce, Marketing Research Division, April 1937.

²¹ See appendix V, p. 46, with regard to the distortion involved in this method.

go to an open-end class of incomes over \$3,000, the regression is distorted by a too high percentage for the \$3,000 to \$5,000 class and too low a percentage for the next bracket. But the general tendency is undoubtedly correctly indicated in percentage table VII.

Table VII.—Total Taxes as Percent of Consumer Income, If Business Taxes Were Shifted to Wages, 1938-39

Income classes	Taxes as percent of income ¹	Income classes	Taxes as percent of income
I. Under \$500	25	VII. \$5,000 to \$10,000	12
II. \$500 to \$1,000	17	VIII. \$10,000 to \$15,000	23
III. \$1,000 to \$1,500	17	IX. \$15,000 to \$20,000	31
IV. \$1,500 to \$2,000	17	X. \$20,000 and over	38
V. \$2,000 to \$3,000	15		
VI. \$3,000 to \$5,000	16	Average	19

¹ Excluding real-property taxes on farms.

Sources: For income, see table I. All taxes and their sources are shown in appendix table E.

It should be noted that taxes on agricultural real property are not included in the computation, since they can scarcely be passed back to wages in any important amount. In computing table VII, it has been assumed that such taxes would be capitalized.

This rough allocation of taxes to wages could be carried out with far greater detail by the use of Department of Labor statistics, published in the *Monthly Labor Review* of various months, on annual earnings in various industries. However, since only a few sample industries were covered by these studies, extrapolation or guesswork would be necessary in any case for extending these results to total consumer income.

A complete shifting backward of all business cost taxes can hardly be realistically assumed. The backward shifting consists rather of a constant pressure, like that of any other increase in business costs, against increases in wages which would be possible in the absence of these taxes; i. e., the effect lags, and a direct shift to wages is rare. The tax patterns of table VII, therefore, probably show an exaggerated regression.

The close correspondence of income and expenditures in the lower brackets leads, perforce, to a certain intercorrelation of results. But the use of the assumption of taxes shifted to wages is intended not as an arithmetical check but rather for a test of the basic assumptions, and, as such, its results validly support the approach used in the study.

Part III.—RESULTS

A. FINAL TAX PATTERNS

The tax pattern, despite apparently sharp changes of rate, shifts slowly, especially as regards the tax structure within national-income patterns. Generally speaking, the total American tax pattern is regressive at its lower end, nearly proportionate through all the middle brackets from \$1,000 to \$5,000, and increasingly progressive from there on.

1. *Personal and consumer taxes.*—Personal taxes have become somewhat more important in the total American tax system, furnishing 28.2 percent of all Federal, State, and local tax revenues in fiscal year 1939, as against 23.2 percent in the fiscal year 1936. As a percentage of consumer income, they rose from 4.3 percent in 1935-36 to 5.7 percent in 1938-39;¹ but consumption taxes, as defined in this study, did not decline; in fact, their percentage also rose, although very slightly from 14.2 to 14.5 percent of consumer income. The increasing reliance on personal taxes must be imputed primarily to the more important share of the Federal Government in taxation and to the higher revenues, especially from income taxes, resulting from business improvement. Federal receipts more than tripled in volume between 1932 and 1938. It is of interest to note that even in 1935, two-fifths of all British taxes (including local rates) were direct, despite import and heavy excise duties, although the total tax yield (excluding social insurance payments) was well over such American receipts of 18.5 percent of consumer income.

Table VIII.—Taxes as Percentage of National Income in United States and Great Britain ¹

Type of taxes ²	Great Britain—1935		United States			
	Taxes	Taxes as percent of income	1935-36		1938-39	
			Taxes	Taxes as percent of income	Taxes	Taxes as percent of income
Personal.....	£381,500,000	9.2	\$2,555,000,000	4.3	\$3,972,000,000	5.7
Consumer.....	539,200,000	13.6	8,475,000,000	14.2	10,118,000,000	14.5

¹ See *International Labor Review*, XXXIV: 5, November 1936, Ursula Hicks—"Some Effects of Financial Policy on the Distribution of Income in Great Britain Since the War," pp. 594-617, especially p. 599.

² Excluding social security payments for Great Britain.

For United States, see table I and text.

2. *Taxes and income.*—The large share of taxes paid in 1938-39 by the lower-income groups is strikingly depicted in table IX. A comparison of column 1, which shows the income of each income bracket

¹ Put in another relationship, Federal income, estate and gift, excess profits, and capital-stock taxes rose from 2.9 percent of national income in fiscal year 1928 to 4.6 percent in fiscal year 1938, after falling to 1.9 percent in fiscal year 1933.

as a percentage of aggregate income, and column 2, which shows the taxes paid by each income bracket as a percentage of the total taxes paid, with both series cumulatively arranged, shows this clearly. It will be noted that except for the lowest ² and the two highest brackets, which appear to have paid more than their straight proportionate share of taxes, all other income brackets paid an amount proportionate to income. Diagram III illustrates these ratios.

Table IX.—Income and Tax Percentages for 1938-39,¹ Cumulated From Lowest Brackets

Income classes	Percent of income found in each income bracket ²	Percent of all taxes paid by each income bracket ³
I. Under \$500.....	3.5	3.7
II. \$500 to \$1,000.....	18.1	16.5
III. \$1,000 to \$1,500.....	36.0	31.5
IV. \$1,500 to \$2,000.....	50.9	44.4
V. \$2,000 to \$3,000.....	68.6	59.5
VI. \$3,000 to \$5,000.....	79.7	69.2
VII. \$5,000 to \$10,000.....	86.6	75.4
VIII. \$10,000 to \$15,000.....	89.6	79.4
IX. \$15,000 to \$20,000.....	91.6	83.0
X. \$20,000 and over.....	100.0	100.0

¹ See diagram II.

² See appendix table C for sources of data and for basic income figures used, which were taken from column 6; i. e., income including various so-called death taxes, but not including corporate income and profits taxes shifted to consumers. This table therefore does not coincide with income percentages in diagram III.

³ All taxes paid are shown with sources in appendix table E, and their distribution by income brackets appears in appendix tables F to J.

A comparison of the 1938-39 tax pattern with that of 1932 is of interest. In 1932 total tax payments were a more nearly constant percentage of income as between income brackets; i. e., a curve drawn across a graph similar to diagram III would have been flatter, especially at the extremes, denoting a more proportional system. At that time, the lowest income bracket paid neither liquor nor social-security taxes, while income-tax rates in the higher brackets were less steeply graduated.

Table X.—Taxes and Income, 1932 ¹

Income classes	Consumer income ² (in millions of dollars)	Percentage of income			
		All personal taxes ³		Total taxes, ³ including shifted taxes	
		On income	On consumer	On income	On consumer
Up to \$750.....	\$5,676	0.2	6.2	0.2	15.4
\$750 to \$1,500.....	12,885	.5	6.6	.5	14.1
\$1,500 to \$2,000.....	7,225	.7	6.6	.9	13.6
\$2,000 to \$3,000.....	8,610	1.3	6.4	1.6	11.0
\$3,000 to \$5,000.....	5,409	2.3	6.0	4.1	11.9
\$5,000 to \$15,000.....	4,758	4.2	4.9	6.8	9.5
Over \$15,000.....	4,930	16.0	3.1	22.8	5.9
Total.....	49,493	2.7	5.9	4.0	12.5

¹ Compare with table Ib.

² Computed on the basis of National Resources Planning Board—*Consumer Incomes in the United States* 1935-36, and Department of Commerce—*Income in the United States, 1929-37*, November 1938.

³ From Bureau of Internal Revenue—*Internal Revenue Collections from Specific Sources, 1918-38*; U. S. Bureau of the Census—*Statistical Abstract of the United States, 1938*; U. S. Bureau of the Census—*Financial Statistics of State and Local Governments, 1932*.

⁴ This regression is due to the presence of consumption in excess of income.

Despite these changes, the basic relationship between taxes and consumer income at different income levels appears to alter slowly, partly because the relatively minor role of most individual taxes means that any rate or administrative changes affect aggregate percentages less than might be expected.

Table XI.—Taxes In Relation To, Consumer Income, 1938–39, If 1932 Tax Rates Had Been In Force In 1938–39

Income classes	All taxes at 1932 rates as percent of income in 1938–39 ¹	1938–39 taxes as percent of consumer income ¹
I. Under \$500.....	13.5	22.0
II. \$500 to \$1,000.....	11.3	17.9
III. \$1,000 to \$1,500.....	11.2	17.2
IV. \$1,500 to \$2,000.....	11.6	17.6
V. \$2,000 to \$3,000.....	11.6	17.0
VI. \$3,000 to \$5,000.....	11.0	16.3
VII. \$5,000 to \$10,000.....	10.1	15.0
VIII. \$10,000 to \$15,000.....	9.8	17.8
IX. \$15,000 to \$20,000.....	10.5	22.0
X. \$20,000 and over.....	15.1	31.3
Total.....	11.6	18.5

¹ Corporate income taxes are excluded.

Sources: Computations based on figures from sources cited in table X. See also tables I and XI, and *Internal Revenue Code of the United States*.

An attempt was also made to apply tax rates of 1932 to 1938–39 income figures to discover what the curve would have been had the tax system remained unchanged. It was assumed, for the purpose of comparison, that expenditure patterns would not have varied. The results are summarized in table X, which shows that the curve would have been approximately horizontal between the \$1,500 to \$2,000 and \$10,000 to \$15,000 brackets. There would have been a slight progression as between the three lowest brackets (below \$1,500), as well as between the two top brackets (i. e., \$15,000 and over). Under actual 1938–39 tax rates the progression began at \$10,000 and rose more steeply. At the same time, actual tax rates were regressive among the lowest-income brackets. In this comparison, corporate income taxes were excluded.

The chief causes of the difference in the tax system of 1932 as applied in 1938–39 and the actual system of 1938–39 were the far greater role of State and local taxes, which are predominantly regressive, the absence of taxes on alcoholic beverages and of social-security taxes; and the very low level of manufacturers' excises. The imposition of these new taxes accounts for the difference in the average percentage of income taken by taxes (18.5 percent actually against 11.6 percent with the hypothetical application of 1932 rates).

In order to put this study on a basis comparable with various analyses of tax burdens of "typical" families, especially the one by Newcomer,³ taxes were computed on an average consumer unit basis by changing aggregates to averages for each of 10 consumer income classes. It should be noted here that the rise in taxes on expenditures per consumer unit is not as rapid as the rise in saving as is shown in table XII.

³ *Studies in Current Tax Problems*, Twentieth Century Fund, 1937.

Table XII.—Taxes and Savings as Percent of Consumer Income Per Consumer Unit, 1938-39 ¹

Income class	Income per unit	Expenditure per unit	Expenditure as percent of income	Savings as percent of income	All taxes, except on corporate income as percent of income
I.....	\$346	\$420	121.4	-----	22.0
II.....	847	833	98.3	-----	17.9
III.....	1,381	1,249	90.4	5.2	17.2
IV.....	1,929	1,722	89.3	5.8	17.6
V.....	2,689	2,294	85.3	9.6	17.0
VI.....	4,121	3,152	76.5	² 17.0	16.3
VII.....	7,749	4,842	62.5	29.4	15.1
VIII.....	13,000	6,679	51.4	35.8	17.8
IX.....	20,333	9,348	46.0	36.9	22.0
X.....	51,259	15,446	30.1	42.2	31.3
Total.....	1,705	1,382	81.1	³ 11.7	11.7

¹ See also table I and appendix table D. Tables I and XII do not quite correspond to each other, as corporate income and profits taxes have been omitted from income and tax percentages in the present table.

² Savings begin to approximate taxes only at the \$3,000 to \$5,000 income level.

³ Note that average per consumer unit savings and taxes are identical.

Sources: Computed from data in National Resources Planning Board *Consumer Expenditures in the United States*; for tax data see table E.

More significant, perhaps, is the fact that savings begin to exceed taxes slightly only when the income of the average consumer unit is between \$3,000 and \$5,000. For the whole \$3,000 to \$5,000 group the excess of saving over taxes is slight (17 percent of income to 16.3 percent of income taken by taxes), so that it is probable that the excess first appears nearer the \$5,000 than the \$3,000 level. A further point of interest is that the average consumer unit in the lowest income bracket (under \$500) pays out in taxes exactly the same proportion of its income as does a unit in the next to the highest bracket with an income between \$15,000 and \$20,000.⁴

The ratio of taxes paid to income in the different income brackets does not, of course, describe the tax system completely. For one thing, the same percentage of income may be taken by taxes at two different periods and yet the nature of the tax structure and therefore its economic effects may have altered considerably. For example, direct individual taxes may account for a larger share of the taxes paid by a particular income bracket without changing its total payments. Again, the percentage of taxes paid may remain constant over time; yet the absolute amount will have risen or declined if incomes received by the bracket changed proportionately. This latter effect might take place irrespective of whether tax rates changed.

3. *Taxes as an influence on consumption.*—Two types of tax influence on consumption must be distinguished: First, there is the effect of "nonshiftable" income taxes, personal and business taxes in curtailing disposable income and in changing the structure or amount of spending. Second, there is the invisible influence of excise and business taxes on consumption.

The effects of taxation on individual spending are extremely difficult to trace. Judging by surveys, a quarter of the people who pay no direct taxes are unaware that they pay any taxes at all. Cer-

⁴ It should be stated that the preceding table excludes corporate income and profits taxes from both income and taxes, thus sharpening regressiveness. (Taxes would be 37.8 percent instead of 31.3 percent of income in the top bracket if corporate income taxes were included in proportion to dividends.)

tainly these persons are not consciously influenced in their consumption pattern by tax considerations, but the influence nevertheless exists. If taxes raise prices noticeably, buyers tend to direct their purchases toward other articles, though they may be unaware of the cause of the price rise. If they purchase the same quantity as before, they will have to curtail expenditures elsewhere, unless they are in one of the upper-income groups where the alternative of curtailing saving exists. The very conscious attempts by smokers to evade the New York City cigarette tax of 1939, which led to a shift in the type of tobacco purchased, is an illustration in point. Taxation probably affects purchasing to a lesser extent if it is passed on to the consumer in a form other than increased nominal prices; a slight decrease in size or quality due to heavier taxes without change in nominal price is a shift of the tax burden to the consumer but one which may not cause him to modify his spending pattern.

If taxes are passed backward, reducing wages and salaries, however, the effect on expenditures (of the lower income brackets in particular) becomes more clearly ascertainable because more information is available concerning the effects of changes in income than of changes in prices.

Personal taxes, of course, affect primarily the sum total of expenditures and savings for each income class. Because of the high exemptions allowed, their direct effect is confined to the expenditures of the four top income brackets. The reduction in the absolute volume of expenditures will affect total consumption and the revenue from consumption taxes, and this, in turn, may lead to further shifts in spending and saving. As income decreases, expenditures, even on necessities, include less taxable fields—older and less expensive automobiles, less valuable furniture subject to lower personal-property taxes, and housing in districts with lower assessments. This may be counterbalanced by the decreased use of untaxed services.

An illustration of this tendency appears in the slight "hump" of taxes as a percentage of expenditures for the income bracket between \$1,500 and \$2,000 (table III). It is caused by the increase in the proportion of expenditures made on automobiles and recreation, both subject to more taxes than other spending, and also by the rise in income and personal-property taxes paid.

If monetary income is sharply and regularly reduced by taxation, the pattern as well as the total amount of expenditures may differ from what it would be at a higher level of disposable income.

The effects of business taxes depend on the type of tax, the type of customers and employees, and the nature of their income and expenditures patterns, and the individual products or income groups to which the taxes are passed. Thus, if a dominant local chain store succeeds in passing on a new levy in the form of a general price increase the effect is mostly regressive, affecting the cash customers unable to drive to another district or to order by telephone; but such a tax might also be concentrated on certain semiluxury goods little bought by the low-income clients. Similarly, a tax on garages and parking lots would be, if transferred to the consumer, mildly progressive, since it would affect automobile owners accustomed to paying for special parking facilities.

In the case of a reduction of wages through the passing on of business taxes to employees, the effect on expenditures would depend

on the amount of the decrease or the prevented increase and the income-expenditures patterns of the employees affected. A very slight decrease with no corresponding fall in prices might, if regarded as temporary in nature, merely reduce savings or increase dissavings; a sharper wage decrease might force a rearrangement of expenditures, with corresponding changes in consumption goods bought and, therefore, in the regressiveness. For example, an increased proportion of expenditures on food at the expense of recreation in the two lowest brackets might actually reduce regression, since food taxes are fewer and lighter than are amusement and other nuisance levies.

Unfortunately, very little material is available on the quality of goods purchased by different income classes. And the quantity of figures based on the family expenditure studies give no inkling of State and local differentiations in purchases and, therefore, in invisible taxes collected from each class.

B. INFLUENCE OF TAXES ON BUSINESS

Although this study is concerned with the incidence of taxes on consumer incomes, it was necessary to make an intermediate allocation of certain taxes to various sectors of industry, as has been previously discussed in part I, section B2, and part II, section C, 1(c) and 2(c). The tentative allocations thus made are presented in table V. The intermediate character of this table precludes any finality for its results. For thorough studies of business taxes and their incidence on business, reference is made to the following two studies, which were also used as a basis for these allocations:

Temporary National Economic Committee, Clifford Hynning, *Taxation of Corporate Enterprise*, Washington, 1940.

Dun & Bradstreet, *A Survey of Taxes Paid by Business in 1938*, New York, December 1939.

C. INFLUENCE OF TAXES ON SAVINGS

The form of savings, both personal and business, and the influence of taxation on them is a question requiring careful analysis. It should be noted here that business savings are not depicted anywhere in the graphs, nor, indeed, considered in the whole study.

The contrast between the distribution of consumer income and that of consumer saving has already been stressed. The amount of saving within a given income bracket apparently can be considered as constant over time as other aspects of expenditure. The *Study of Consumer Purchases* series indicates that the form of consumer dissaving and saving varies with the income level and at the same time indicates a certain constancy within the lower-income classes.

Table I and diagram III indicate the quantitative relationship between incomes on the one hand and taxes and savings on the other. It can be assumed that changes in taxation in the lower and middle-income brackets do not affect savings substantially. A certain increase in prices may result in increased dissavings, yet this will be only a temporary result. Saving constitutes such a relatively small proportion of income in the lower brackets that a change in taxes will affect spending rather than saving. Saving in the lower and middle brackets is also a relatively rigid item in the budget of consumers in these brackets. In some cases, savings belong practically to what should be called "life necessities."

Table XIII.—Consumer Savings by Income Brackets, Related to Consumer Incomes in 1935-36 and 1938-39

Income classes ¹	Consumer savings (in millions of dollars)		Percent of total savings made by each group		Savings as percent of income in each group ²	
	1935-36	1938-39	1935-36	1938-39	1935-36	1938-39
I. Under \$500.....	-800	-575	-13.4	-7.2	-38.8	-24.3
II. \$500 to \$1,000.....	-636	-197	-10.6	-2.5	-7.3	-2.0
III. \$1,000 to \$1,500.....	-2	642	0	8.1	0	5.2
IV. \$1,500 to \$2,000.....	441	593	7.4	7.4	5.0	5.8
V. \$2,000 to \$3,000.....	1,069	1,167	17.9	14.6	10.1	9.6
VI. \$3,000 to \$5,000.....	1,176	1,299	19.6	16.3	17.7	17.0
VII. \$5,000 to \$10,000.....	1,218	1,380	20.4	17.3	29.7	29.4
VIII. \$10,000 to \$15,000.....	679	726	11.3	9.1	38.7	35.8
IX. \$15,000 to \$20,000.....	473	517	7.9	6.5	39.3	36.8
X. \$20,000 and over.....	2,360	2,425	39.5	30.4	47.7	42.2
Total.....	5,978	7,977	100.0	100.0	10.0	11.7

¹ Same as in table I.² Excluding corporate income tax: Comparable to each other but not to Diagram III B.

Sources: See table I.

In the upper brackets, the situation is quite different. Here, saving is more a residual use of income, remaining after taxes have been paid and current expenditures made. Here a change in taxes presumably affects saving more than current spending.

For the economic effects of taxes, it would be very important to distinguish the extent to which taxes imposed on the various income brackets may affect savings in the form of life-insurance investment, in real-estate, in stocks, Government securities, etc. The Department of Commerce has initiated a project designed to discover the investment habits of various wealth brackets by means of an analysis of the composition of estates. This survey will form a basis for a later analysis of the effect of taxes on savings of various quality.

Appendix I.—THE DEFENSE TAX BILL

The defense tax proposals of May and June 1940 presented an opportunity to apply the methods developed in this study in forecasting the probable incidence of new levies on consumer income. The following computation is presented mainly as an illustration for the possible use that can be made of this method.

1. The taxes proposed in H. R. 9966 and 10039 can be summarized as follows:

- (1) Supertax of 10 percent on all income taxes.
- (2) Lowering of personal exemption for individual income tax to \$800 for single persons, \$2,000 for married couples.
- (3) Graduated increase in surtax rates on incomes \$6,000 to \$100,000.
- (4) All corporate income-tax rates raised by 1 percent of corporate income.
- (5) Supertax of 10 percent on 2, 3, and 4.
- (6) Supertax of 10 percent on estate taxes.
- (7) Supertax of 10 percent on Federal excises.
- (8) Increases in levies on gasoline, beer, liquor, cigarettes, transfer tax on stocks and bonds.
- (9) Reduction of exemption on amusements.

A yield of \$1,047,000,000 was expected from these changes. This proposed revenue was distributed to 1938-39 consumer incomes in order to ascertain what changes, if any, would be produced in the tax pattern. It was found that new taxes affect the total tax pattern to some extent.

Table A.—Percentage of Defense Taxes Paid by Each Income Bracket

Income bracket	1938-39 taxes	Defense taxes under H. R. 9966	Defense taxes under H. R. 10039
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
I. Under \$500.....	3.7	2.2	1.4
II. \$500 to \$1,000.....	12.8	9.2	6.2
III. \$1,000 to \$1,500.....	15.0	12.2	9.5
IV. \$1,500 to \$2,000.....	12.9	11.1	8.9
V. \$2,000 to \$3,000.....	15.1	13.8	11.2
VI. \$3,000 to \$5,000.....	9.7	9.4	10.3
VII. \$5,000 to \$10,000.....	6.2	6.8	6.4
VIII. \$10,000 to \$15,000.....	4.0	4.9	6.1
IX. \$15,000 to \$20,000.....	3.6	4.6	6.2
X. \$20,000 and over.....	17.0	25.6	33.8
Total.....	100.0	100.0	100.0

Sources: See table I and bills cited as H. R. 9966 and H. R. 10039; since this study was completed, H. R. 10039 has been enacted into law with only very minor modifications.

If it is intended to measure the modification of the existing tax patterns by a new tax proposal, the expected tax payments would be related to the total income of the consumer units of the various in-

come brackets. If the intent, however, is to measure the relative curtailment of spending and saving of consumers in the various brackets by the new tax, the tax payments should be related to the income disposable for spending or saving (*i. e.*, the income after deduction of all personal taxes previously imposed). The results of these procedures are shown in table B.

Table B.—Defense Taxes ¹ as Percent of Consumer Income ²

Income bracket	As percent of consumer income ²	As percent of consumer income disposable ³
I. Under \$500.....	0.6	0.6
II. \$500 to \$1,000.....	.7	.7
III. \$1,000 to \$1,500.....	.8	.8
IV. \$1,500 to \$2,000.....	.9	.9
V. \$2,000 to \$3,000.....	1.0	1.0
VI. \$3,000 to \$5,000.....	1.4	1.4
VII. \$5,000 to \$10,000.....	1.4	1.5
VIII. \$10,000 to \$15,000.....	2.8	3.4
IX. \$15,000 to \$20,000.....	4.0	5.5
X. \$20,000 and over.....	5.4	8.6
Average.....	1.5	1.6

¹ See text, appendix I, p. —, for the taxes.

² Assumed to be the same as in 1938-39. See table I, appendix table C, and text, appendix I, pp. —, for allocation of these taxes.

³ Income after deduction of all personal taxes previously imposed.

The definition of disposable income is total consumer income less all direct personal taxes (other than corporate income taxes). The proposed defense taxes on corporate income were included in disposable income in calculating the ratio of defense taxes to disposable income.

2. *Method of allocation.*—Gasoline and cigarette taxes were allocated in direct ratio to expenditures on these commodities. The new tax on beer was proportioned to food expenditures, on liquor to recreation.

The expected new amusement revenue was distributed in ratio to recreation expenditures of the six income classes under \$5,000. The increased yields from estate and transfer taxes were allocated to the four brackets above \$5,000, in proportion to 1938-39 estate taxes and to savings, respectively. The supertax on "other excises" was made proportionate to expenditures. Increases in the corporate-income tax were assumed to be shifted to shareholders in direct ratio to stockholdings. The supertax on individual income taxes was, of course, presumed to fall in accordance with 1938-39 income-tax payments. The revenue to be produced by lower personal exemptions was assumed to be paid by the five income brackets below \$5,000, in part by new taxpayers, in greater part by former taxpayers. These payments were allocated in proportion to the total estimated exemptions (in 1937) of the two groups of taxpayers. The increase in revenue from higher surtax rates was allocated by applying the percent increase in the surtax rate to the surtax paid by the affected income bracket in 1937. The sum of the increased yields from brackets under \$20,000 was deducted from the total expected yield to get a similar figure for the open-end class of incomes over \$20,000. This figure agreed with the probable average surtax increase of the corresponding classes, and thus provided a check for the method used.

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Appendix III.—TAX CAPITALIZATION

The possibility of tax capitalization was not considered in the computations but may notably affect tax and saving ratios. The property taxes imposed on land and buildings may be passed neither forward nor backward but result in a decrease in capital value obtainable by the owner when and if he sells such real property. Such capitalization is predicated upon the availability of other types of investments which become more attractive. The future expected taxes, thus capitalized, would depress real property values, being absorbed by wealth rather than income. When taxes are capitalized, their impact, by lowering the value of property, may lead to the need for reassessment and the raising of tax rates, or discovery of new sources of revenue—or else to increased tax delinquency and the coming into the hands of the tax authority and therefore on the market of large amounts of property, thus further depressing real-property values. Conversely, lowered tax rates may be capitalized into higher capital values, leading to windfall profits for sellers of such property.

The emphasis on real property in American property taxation fosters tax capitalization, since discrimination in favor of other types of property provides attractive alternative investment opportunities. The extent of such capitalization is perhaps evidenced by the 14 percent decline in assessed property valuations between 1932 and 1937, although assessment practices and lags in reassessment may explain it in part. However, this theoretical and actual effect assumes, first, the prospective transfer of property after a change in tax rates; second, the impossibility of shifting the tax to tenants; third, the absence of any compensating factors which over a period of time might restore the old relationship.

In other words, assuming that the property tax on a residence rented out is lowered, it is not inevitable that the rent will be likewise lowered, proportionately or at all. Instead, the land value might rise because of the lessened carrying charge. In this case, the tax reduction would mean a capital gain for the former owner but no advantage for the tenant. Conversely, a tax increase need not necessarily mean a compensatory rise in rents.

Of course, these considerations apply mainly to the value of old property or only the land where new construction takes place.¹

The possibility of tax capitalization has been discarded in the preceding study, which represents simultaneous income and tax outgo, while tax capitalization is effective only over time and sporadically as individuals dispose of and acquire property. (A rapid ownership turn-over² in America contributes to quick capitalization and the need of annual reassessment.)

But the inclusion of mortgage extinction and real-estate acquisition as increases in assets in the consumer studies means that realized capital gains affect the final aggregate saving figures. Whatever role taxes play in affecting capital values is reflected in the saving and dissaving shown.

¹ Old property value is established mainly by the maintenance costs of new houses, including interest, taxes, insurance, and repairs. Interest and taxes, in turn, are determined by land values and construction costs. As regards land value, tax amortization may play a role, so that its part in establishing or changing rents (or imputed rent value of tenant-owned homes) is very minor.

² See U. S. Department of Agriculture *Circular* No. 548, M. M. Regan, "The Farm Real Estate Situation, 1936-37, 1937-38, and 1938-39," October 1939. On p. 34, all farms changing hands by whatever method are estimated at from 6.2 to 7.4 percent in each of the years 1935 through 1939.

Appendix IV.—DISTRIBUTION OF TAXES ON REAL ESTATE BY TYPE OF OWNERS ¹

As a part of the inquiry into the economic effects of taxation, a questionnaire on general property taxes was prepared by the Department of Commerce, and the questionnaire was sent by the Urban Land Institute to approximately 450 local boards that are members of the National Association of Real Estate Boards. A copy of the questionnaire is presented herewith. Among the inquiries was a request for the distribution on a percentage basis of the total taxes on real property by four classes of owners: (a) Businesses, including industries; (b) farms; (c) residential property—(1) owned homes and (2) homes rented out; and (d) vacant lots.

Of the replies received, 53 supplied percentage data on this inquiry; the remainder either made no reply or stated that the percentage distribution by classes of owners was not available. The distribution by class of owner for the 53 cities or counties for which the information was tabulated is presented in the accompanying table.

URBAN LAND INSTITUTE AND THE DEPARTMENT OF COMMERCE

QUESTIONNAIRE

1. What was the approximate amount of general property taxes levied or collected (specify which is being reported) in your city or county (state which unit is being reported) by whatever jurisdiction levied, for the fiscal year ended in 1938?-----
2. (a) Is tangible personal property taxed in your city or county?-----
(b) Is intangible personal property taxed in your city or county?-----
3. Of the total tax levy, or collection, reported in No. 1, state the approximate amount levied on, or collected from, real property, \$.-----
4. Of the total taxes on real property reported in No. 3, approximately what percent was levied on, or collected from, the following classes of owners:

(a) Businesses, including industries-----	percent
(b) Farms-----	percent
(c) Residential property-----	percent
1. Owned homes-----	percent
2. Homes rented out-----	percent
(d) Vacant lots-----	percent
Total-----	100 percent
5. Are there differential tax rates on any of the classes of real property listed in No. 4?-----
If so, please specify-----
6. Please state, for the data reported in No. 3, your judgment as to what was the estimated ratio of assessed valuation to true valuation of real property, by classes:

(a) Business and industries-----	percent
(b) Farms-----	percent
(c) Residences-----	percent
1. Owned-----	percent
2. Rented out-----	percent
(d) Vacant lots-----	percent

¹ Prepared by C. E. Rightor, Chief Statistician, Division of State and Local Government, Bureau of the Census, Department of Commerce.

URBAN LAND INSTITUTE AND THE DEPARTMENT OF COMMERCE— Continued

QUESTIONNAIRE—Continued

7. What types of privately owned real property are exempt from general property taxes in your city or county? (Charitable, religious, educational, industrial, homestead, other)-----
8. Have you observed any influence of changes in tax rates or assessed valuations on the prices of property and the turn-over in property of various types?-----
9. Any additional comments?-----
- (Name of Board)-----
- (Address)-----
- (City)----- (State)-----

Distribution by Class of Owner of Total Taxes on Real Property for 53 Cities or Counties, by Population Groups, 1938

City or county and population group	Population, 1930	Percentage of real-property taxes paid by class of owner					
		Busi- ness	Farms	Vacant lots	Homes, total	Homes owned	Homes rented out

Group I.—HAVING A POPULATION OF 500,000 AND OVER

City:							
Milwaukee, Wis.....	578, 249	44	-----	-----	56	24	32
County:							
Los Angeles, Calif. (Los Angeles).....	2, 208, 492	30	10	20	40	28	12
Cook, Ill. (Chicago).....	3, 982, 123	50	10	10	30	-----	-----

Group II.—HAVING A POPULATION OF 100,000 to 500,000

City:							
South Bend, Ind.....	104, 193	48	-----	2	50	27	23
Des Moines, Iowa.....	142, 559	39	-----	7	54	32	22
Grand Rapids, Mich.....	168, 592	65	-----	2	33	19	14
Yonkers, N. Y.....	134, 646	8	-----	45	47	-----	-----
Portland, Oreg.....	301, 815	43	5	2	50	25	25
Dallas, Tex.....	260, 475	80	-----	-----	20	-----	-----
Richmond, Va.....	182, 929	50	-----	13	37	-----	-----
Honolulu, Hawaii.....	202, 923	35	30	10	25	10	15
County:							
Alameda, Calif. (Oakland).....	474, 883	25	15	10	50	30	20
San Diego, Calif. (San Diego).....	209, 659	27	15	24	34	20	14
Winnebago, Ill. (Rockford).....	117, 373	25	18	12	45	41	4
Genesee, Mich. (Flint).....	211, 641	32	16	6	46	-----	-----
Tulsa, Okla. (Tulsa).....	187, 574	46	10	2	42	29	13
Multnomah, Oreg. (Portland).....	338, 241	43	5	2	50	25	25

Group III.—HAVING A POPULATION OF 50,000 to 100,000

City:							
Pasadena, Calif.....	76, 086	15	-----	5	80	60	20
Charlotte, N. C.....	82, 675	34	-----	9	57	38	19
Altoona, Pa.....	82, 054	25	-----	10	65	33	32
Harrisburg, Pa.....	80, 339	60	-----	2	38	20	18
Charleston, W. Va.....	60, 403	49	-----	15	36	16	20
Madison, Wis.....	57, 899	29	-----	-----	71	-----	-----
County:							
Pima, Ariz. (Tucson).....	55, 676	44	4	8	44	40	4
Stanislaus, Calif. (Modesto).....	56, 641	25	50	5	20	15	5
Burlington, N. J. (Morristown).....	93, 541	25	15	10	50	35	15
Ashtabula, Ohio (Ashtabula).....	68, 361	55	20	5	20	10	10
Richland, Ohio (Mansfield).....	65, 902	50	20	10	20	11	9
Grays Harbor, Wash. (Hoquiam).....	59, 982	60	14	3	23	18	5
Wood, W. Va. (Parkersburg).....	56, 521	25	5	-----	70	44	26

Distribution by Class of Owner of Total Taxes on Real Property for 53 Cities or Counties, by Population Groups, 1938—Continued

City or county and population group	Population, 1930	Percentage of real-property taxes paid by class of owner					
		Busi- ness	Farms	Vacant lots	Homes, total	Homes owned	Homes rented out
Group IV.—HAVING A POPULATION OF 25,000 TO 50,000							
City:							
New London, Conn.-----	29,640	25	-----	10	65	-----	14
Moline Township, Ill. (Moline)-----	30,607	50	-----	12	38	23	27
Council Bluffs, Iowa-----	42,048	30	2	8	60	33	27
White Plains, N. Y.-----	35,830	30	10	5	55	30	25
Lima, Ohio-----	42,287	30	35	5	30	21	9
Massillon, Ohio-----	26,400	45	10	5	40	25	15
Newport News, Va.-----	34,417	60	-----	5	35	-----	-----
County:							
Mesa, Colo. (Grand Junction)-----	25,908	10	52	4	34	25	9
Floyd, Ind. (New Albany)-----	34,655	10	7	1	82	41	41
Bernalillo, N. M. (Albuquerque)-----	45,430	63	10	2	25	16	9
Arlington, Va.-----	26,615	7	-----	14	79	72	7
Whatcom, Wash. (Bellingham)-----	59,128	40	18	7	35	21	14

Group V.—HAVING A POPULATION OF LESS THAN 25,000

City:							
Old Lyme, Conn.....	1,313	10	5	10	75	60	15
Daytona Beach, Fla.....	16,598	40	-----	-----	60	40	20
Ocala, Fla.....	7,281	15	40	5	40	-----	-----
Waterville, Maine.....	15,454	50	5	5	40	24	16
Monroe, Mich.....	18,110	45	-----	5	50	35	15
Westfield, N. J.....	15,801	5	10	30	55	35	20
Bronxville, N. Y.....	6,387	27	-----	12	61	60	1
Scarsdale, N. Y.....	9,690	5	-----	10	85	72	13
Salisbury, N. C.....	16,951	60	13	2	25	16	9
Shawnee, Okla.....	23,283	10	45	1	44	30	14
Waukesha, Wis.....	17,176	20	-----	-----	80	48	32

Appendix V.—THE METHODS OF STUDY

The original National Resources Planning Board figures were accepted as basic data for 1935-36, although methodological changes in the allocation of taxes required minor additions, described below.

As has been pointed out in the text, it was believed preferable to employ crude and simple methods of allocation where data did not warrant refinement, and to describe the existence and extent of possible error, rather than mislead the reader with apparent statistical refinements no more trustworthy than the original source.

The 1935-36 per unit income in each income class was multiplied by the number of consumer units in that class to get its "basic income." This amount was then raised in each case to make the total equal the 1938-39 consumer income computed by using 1938-39 figures on Commerce Department income payments.

The 1938 figure of \$66,271,000,000 for income payments was subtracted from the 1939 estimates of \$69,683,000,000, and the difference split and added to the lower figure to get the 1938-39 income payments corresponding most closely to the 1935-36 consumer income figure developed by the sample method of the National Resources Planning Board. The figure derived approximately fits fiscal year 1939, tax receipts of which are used.

Table C.—Basic Data on Consumer Incomes

Income classes	Number of consumer units ¹ (in thousands)	Consumer income ² (millions of dollars)	Income per consumer unit	Increase over 1935-36 per consumer unit	Income including death taxes ³ (millions of dollars)	Same income including corporate income and profit taxes ³ (millions of dollars)
I. Under \$500.....	6,828	2,363	\$346	\$39	2,363	2,363
II. \$500 to \$1,000.....	11,852	10,034	847	96	10,034	10,038
III. \$1,000 to \$1,500.....	8,887	12,273	1,381	156	12,273	12,280
IV. \$1,500 to \$2,000.....	5,277	10,179	1,929	218	10,179	10,210
V. \$2,000 to \$3,000.....	4,512	12,131	2,689	304	12,131	12,194
VI. \$3,000 to \$5,000.....	1,850	7,623	4,121	466	7,623	7,743
VII. \$5,000 to \$10,000.....	606	4,691	7,741	875	4,696	4,861
VIII. \$10,000 to \$15,000.....	156	2,008	12,872	1,454	2,028	2,238
IX. \$15,000 to \$20,000.....	69	1,344	19,477	2,198	1,403	1,601
X. \$20,000 and over.....	112	5,331	47,600	5,373	5,741	6,333
Total.....	40,149	67,977	1,693	191	68,471	69,861

¹ Extrapolated, on the basis of census estimates, from figures in National Resources Planning Board—*Consumer Incomes in the United States, 1938*.

² Extrapolated, on the basis of Department of Commerce estimates, from figures *ibid.*

³ Taxes from *Annual Report of the Secretary of the Treasury, 1939*, and State and Local Government, *Special Study No. 7*, revised "State Tax Collections." For allocation, see pp. 45-8.

A "basic expenditures" figure was derived in a similar manner. The difference between the original 1935-36 and the new 1938-39 per unit incomes was broken down to show per unit increases in savings and in expenditures. The ratio of these items was obtained

by interpolating the percentages of each \$10,000,000,000 additional income saved and spent by the receivers of the three-thirds of consumer income. (See tables in National Resources Planning Board *Consumer Expenditures in the United States*, pp. 174 and 184, and *Structure of the American Economy*, p. 91.)

These figures do not correspond to the arithmetical progression indicated by the independent Securities and Exchange Commission estimates of savings of \$17,500,000,000 in 1936, with a national income of \$65,226,000,000, and \$18,500,000,000 in 1937, when income rose to \$71,853,000,000. Since \$6,000,000,000 was believed to be consumer savings in 1936 (which agrees very well with the National Resources Planning Board computation of \$5,978,000,000), the same percentage (34.3) applied to 1937 would have given only \$6,120,000,000 consumer savings. On the other hand, the 1935-36 National Resources Planning Board estimates show consumer saving increasing more rapidly than consumer income. The same proportion of savings as 10 percent of income would have given \$6,735,000,000 as the consumer savings for 1937-38, and \$6,847,000,000 in 1938-39. But if savings do increase at a faster rate than does income, as the increase in all bank-deposit figures and the decrease in Government housing and agricultural loans would suggest, then the savings estimate developed in the study is fully justified.

The aggregates for basic and for additional expenditures were added to get a preliminary expenditure figure for each income class. To get the final expenditure figures in line with the Board's definitions for the purpose of comparability, it was necessary to deduct personal taxes and gifts (1935-36 figures raised in ratio to the income increase) from either expenditures or savings. Deductions were made from expenditures for the income groups up to \$2,000 (see text, p. 11), and from savings for other brackets (with one minor exception).

Table D.—Gifts, Savings, and Expenditures

Income classes	Gifts (in millions of dollars)	Total savings (in millions of dollars)	Tax deductions for calculating expenditures (in millions of dollars)	Net expenditures (in millions of dollars)
I. Under \$500	39	-575	31.7	2,868
II. \$500 to \$1,000	277	-197	85.1	9,869
III. \$1,000 to \$1,500	418	642	113.5	11,100
IV. \$1,500 to \$2,000	382	593	117.2	9,086
V. \$2,000 to \$3,000	490	1,167	124.7	10,350
VI. \$3,000 to \$5,000	352	1,299	141.5	5,831
VII. \$5,000 to \$10,000	231	1,380	146.6	2,934
VIII. \$10,000 to \$15,000	99	726	140.8	1,052
IX. \$15,000 to \$20,000	56	517	125.5	645
X. \$20,000 and over	116	2,425	1,060.3	1,730
Total ¹	2,459	7,977	2,978	55,465

¹ Totals are given to the closest million.

Sources: Basic data from National Resources Planning Board *Consumer Expenditures in the United States*, extrapolated. For tax sources, see table C, note 3.

The expenditure and savings figures thus derived were final; but income figures, although used as the basis for distributing dependent data, were further adjusted before their use for developing group percentages by the addition of inheritance, estate, and gift taxes to

the proper income brackets; likewise corporate and profits taxes, after distribution to the appropriate income brackets, were added to income, since the imputation of consumer payment of these taxes implies precedent receipt of at least that amount of profits. (See table C.)

Taxes were attributed to particular income brackets by methods appropriate, as far as possible, to the tax involved. *Statistics of Income* ratios of taxes paid in various income brackets were used for allocating individual income taxes.

Table E.—Tax Receipts, Fiscal Year 1939

[In millions of dollars]

Item	Federal ¹	State ²	Local ³
Customs revenues.....	318.8		
Individual-income taxes.....	1,028.8	186.9	
Corporate-income taxes.....	1,122.5	⁴ 142.7	
Capital-stock taxes.....	127.2		
Excess-profits taxes.....	27.1		
Estate, inheritance, gift taxes.....	360.7	133.0	
Poll taxes.....		5.8	(⁵)
Motor-vehicle licenses.....		362.3	⁶ 30
Gasoline taxes.....	207.0	800.9	
Tobacco taxes.....	580.2	59.5	20
Alcoholic-beverage taxes.....	587.8	⁷ 218.5	20
Manufacturers excises.....	190.0		
Stamp and documentary taxes.....	41.1	27.0	
Taxes on amusements, utilities, and insurance companies.....	⁸ 62.7	⁹ 206.8	
Severance taxes.....		44.4	
Miscellaneous business taxes.....	¹⁰ 40.6	¹¹ 161.6	330
General sales taxes.....		442.3	
General property taxes.....		241.2	4,300
Unemployment compensation taxes.....	740.4	799.0	
Sugar Act of 1937.....	65.4		
Total.....	5,500.3	3,832.0	4,700

¹ Federal tax receipts from *Annual Report of the Secretary of the Treasury, 1939*.

² State tax collections from Bureau of the Census, State and local government, *Special Study No. 7, Revised*—"State Tax Collections, Fiscal Year 1938-39."

³ Local taxes estimated roughly on basis of 1938 figure cited in *Bulletin of the Treasury Department*, August 1939. See text, table V, note 4, regarding later estimates by the Tax Policy League.

⁴ "Undistributed" State income taxes of \$29,700,000 are included here, but not in the distribution of corporate income taxes to income brackets.

⁵ The estimated receipts from local poll taxes in earlier years has been around \$10,000,000. The trend away from this tax precluded any rational estimate.

⁶ Including gasoline taxes.

⁷ Includes selective sales tax and licenses.

⁸ Includes taxes on communication and transportation facilities, leases of safe deposit boxes, checks, etc., admissions and club dues.

⁹ Gross receipts taxes.

¹⁰ Includes taxes on oleomargarine, narcotics, processed oils, crude petroleum, bituminous coal, unjust enrichment.

¹¹ Includes selective sales tax on commodities other than gasoline, tobacco and alcoholic beverages and license taxes other than on alcoholic beverages.

The inconsistencies in the concepts of consumer income as found in the National Resources Planning Board study and net income as defined for individual income tax purposes might well affect the distribution of income taxes among consumer income levels. No adjustment was sought for the differences between consumer unit and individual, between the inclusiveness of deductions and income under the two respective definitions, of the Board and the Treasury for the two following reasons: In the first place, the adjustments for income had already been made in the Board study, and particularly affected the totals of the upper-income brackets; in the second place, what was sought was the distribution of actual taxes paid in relation to income received by consumers. So aggregate actual receipts of individual incomes taxes were distributed among the income groups

on the basis of the percentage of such receipts paid by the corresponding individual income group (*Statistics of Income*, pt I, 1937; table 3, p. 121). As has been pointed out, this may lead to an overestimate of the taxes paid by lower-income families; but the concentration of income taxes paid in the three highest brackets indicates that any error for the groups below would be extremely small in terms of percentage of income. A decrease of Federal individual income taxes imputed to the \$5,000-\$10,000 group by even \$15,000,000 would lower their total tax burden by 0.3 percent of their income. Since adjustments would be hypothetical (see National Bureau of Economic Research, *Income and Wealth*, vol. III, Enid Baird and Selma Fine, "The Use of Income Tax Data in the National Resources Committee Estimate of the Distribution of Income by Size," pp. 149-203, and discussion by A. J. Goldenthal, pp. 204-215), and some degrees removed from even 1935-36 accuracy by the extrapolation of income data to 1938-39 and the use of incomplete income tax data not corresponding fully to the income year, the making of adjustments was again felt to be misleading, since they would imply a greater precision and give an appearance of real accuracy to merely plausible figures. Furthermore, as has also been indicated, the range of each of the higher income brackets eliminates error to some extent. An increase of even \$77,400,000 (assuming a 10-percent error) in the top bracket's share would raise their tax burden by 1.2 percent of income.

Table F.—Personal Taxes by Income Brackets

[All money figures in millions of dollars]

Income classes	Individual income taxes, Federal and State	Social security employee taxes	Inheritance, estate, gift taxes, Federal and State	Poll taxes, State	Personal property taxes—two-thirds of total
I. Under \$500.....	0.0	26.2	-----	0.0	5.5
II. \$500 to \$1,000.....	.1	65.2	-----	2.6	17.4
III. \$1,000 to \$1,500.....	6.3	77.4	-----	1.4	28.4
IV. \$1,500 to \$2,000.....	12.2	63.4	-----	.8	40.8
V. \$2,000 to \$3,000.....	16.7	54.7	-----	.7	52.6
VI. \$3,000 to \$5,000.....	41.4	33.3	-----	.3	66.5
VII. \$5,000 to \$10,000.....	89.0	-----	5.0	.1	57.5
VIII. \$10,000 to \$15,000.....	73.9	-----	20.0	.1	68.9
IX. \$15,000 to \$20,000.....	61.3	-----	59.0	-----	64.2
X. \$20,000 and over.....	914.7	-----	410.0	-----	145.6
Total ¹	1,216.0	320.0	494.0	6.0	546.0

¹ Totals are given to the closest million.

Sources: See table E; for allocations of taxes to income brackets, see text, p. 17, on income taxes; p. 17, on Social security taxes; pp. 17, 18, on "death" taxes, pp. 17, 18, on poll and personal property taxes.

The allocation of State individual income taxes according to Federal tax ratios was made necessary by the absence of adequate State data on income distribution by levels corresponding to the consumer income study. The small amount involved (\$187,000,000) in comparison to total income made this procedure practicable, particularly since distortion would be in the opposite direction from that caused by the nonadjustment of Federal individual income taxes, for State taxes tend to have a lower exemption than do Federal.

Social Security employee old-age contributions were obtained from the *Annual Report* of the Secretary of the Treasury, 1940, page 1568, as follows:

A. Total Federal employment taxes.....	\$631, 000, 000
1. Under title VIII.....	529, 800, 000
2. Under title IX.....	101, 200, 000
B. Railroad carriers' taxes.....	109, 400, 000
Paid by employees:	
One-half of 1.....	264, 900, 000
One-half of B.....	54, 700, 000
Total.....	319, 600, 000

State and Local Government, *Special Study No. 7*, revised, Bureau of Census—"State Tax-Collections", page 9:

C. Unemployment compensation taxes, (all except railroad).....	\$799,000,000	
		Percent
Employer taxes.....	\$1, 165, 000, 000	54. 7
Employee contributions.....	265, 000, 000	54. 7

They were allocated on the basis of the percentage of total taxable wages received by each income bracket, stopping at an open-end class of "over \$3,000," as given in the April 1939 number of the Social Security Board *Bulletin* (p. 4); this class may have compensated for the somewhat arbitrary assignment of death taxes at a steeply progressive rate to the four top income brackets. Again, no adjustments for family income have been made, nor could they change the shape of the curve, since despite the concentration of these taxes in the six lowest income classes, their percentual relationship to income is in the vicinity of 1 percent or less. Consumption taxes and shifted taxes are of primary importance in the tax burden of these classes.

The estate taxes (Federal plus State) were split as between the two top brackets by arbitrarily assigning taxes on net estates over \$50,000 (actually \$100,000, in view of the specific exemption) to the income classes above \$15,000, and splitting taxes on smaller estates in proportion to aggregate income received by that class and by the next two preceding (\$5,000 to \$15,000). Gift taxes were all attributed to the two top brackets, as it is doubtful that traceable gifts over the exemptions would be made, even over time, by receivers of income less than \$15,000.

The proportions to be allocated to each income class were derived as follows:

The total tax liability of half of the net estates smaller than \$50,000 was figured in proportion to the liability of total net estates. This ratio was applied to inheritance and estate taxes to be attributed to the income classes between \$5,000 and \$15,000. The rest, plus gift taxes, was attributed to the classes over \$15,000. Each total was divided between its respective two income classes in proportion to total personal taxes paid by the income classes.

Poll taxes were treated as proportionate to consumer unit number. Personal-property taxes were the most difficult to allocate, if only because the very data had to be estimated. The personal-property tax revenue, aside from the special property taxes on utilities, was divided into three parts—one third was attributed to business, the

other two parts to consumers. It was assumed that one of these parts was paid on intangibles and one on tangible property. The latter was therefore allocated in proportion to 1935-36 expenditures on furnishings, automobiles, and, in the four high brackets, on part of clothing. The tax on intangible personal property was allocated by developing and extrapolating the estimates on the distribution of stockholdings given by Colm and Lehmann in *Economic Consequences of Recent American Tax Policy* (p. 46) (based on Twentieth Century Fund figures). The dividends were also assumed to be proportionate, and therefore corporate income taxes, in assuming forward shifting of all taxes, were distributed on the same basis. The original percentages used for the extrapolation were: 34.3 percent of dividends go to brackets which are nontaxable or under \$6,000; 23.1 percent go to people in the \$6,000 to \$20,000 classes, and 42.6 percent to the rest. The results of the interpolation and adjustment of these figures are shown in table J.

Table G.—Specific Consumption Taxes and All Consumption Taxes, by Income Brackets

Income classes	Taxes on specific consumption (in millions of dollars)		Taxes shifted to consumption (in millions of dollars)		Total taxes on consumption (in millions of dollars)		Percentage of consumption taxes paid by each bracket
	Federal	State and local	Federal	State and local ¹	Federal	State and local	
I. Under \$500.....	71	103	90	222	161	325	3.7
II. \$500 to \$1,000.....	287	356	309	764	596	1,120	12.8
III. \$1,000 to \$1,200.....	345	445	348	861	693	1,306	15.0
IV. \$1,200 to \$2,000.....	286	397	284	705	570	1,102	12.9
V. \$2,000 to \$3,000.....	327	484	324	804	651	1,288	15.1
VI. \$3,000 to \$5,000.....	181	282	183	453	364	735	9.7
VII. \$5,000 to \$10,000.....	87	147	92	228	179	375	6.2
VIII. \$10,000 to \$15,000.....	31	55	33	81	64	136	4.0
IX. \$15,000 to \$20,000.....	19	32	21	52	40	84	3.6
X. \$20,000 and over.....	48	92	54	134	102	226	17.0
Total ²	1,682	2,393	1,738	4,304	3,420	6,697	100.0

¹ Includes general sales taxes.

² Totals are given to the closest million.

Sources: See table E, and text, pp. 12, 13 ff, 18 ff.

Consumer taxes were distributed on the basis of the National Resources Planning Board Consumer Expenditures study. Gasoline taxes and the nonbusiness part of manufacturers' automobile excises were distributed in proportion to spending on automobiles. As has been noted in the text, this procedure probably moderated the regressiveness of gasoline taxes, since with decrease in size of income a progressively larger portion of automobile and gasoline expenditures goes for the fuel, while in the upper-income brackets a much larger part of automobile expenditures in reality represents the annual or semiannual purchase of a new car, and the car is generally higher priced. Since manufacturers' excises on automobiles are very small in comparison to levies on gasoline, the procedure overrepresents, maybe substantially the share of consumer taxes paid by the upper brackets.

The only uncertainty with regard to tobacco taxes is the relative consumption by various classes of particular types of tobacco. It is

doubtful, however, that any appreciable difference would result from a distribution of total tobacco taxes among the income classes in proportion to their expenditures on tobacco, since such spending, however tremendous as a sum, makes a very small percentage dent in consumer expenditures.

Taxes on foods are laid by the Federal Government on oleomargarine, mixed flour, filled cheese, processed butter, and various oils which are substitutes for butter. These taxes amount to little and are probably paid by the lowest-income groups who tend to use the cheaper substitute foods, but since the actual proportions are not available and the amounts involved are very small, they were attributed in proportion to food expenditures without regard for actual incidence.

The allocation of other excises, especially on liquor and gasoline, has been discussed in detail in the text.

BUSINESS TAXES

There is a sizable discrepancy between figures on actual receipts and taxes payable by corporations (such differences exist for other taxes but are of far smaller amounts). There would be reason to take either figure, since the economic effects of taxes result both from the fact of their being due and from their actual payment. However, in view of the fact of the receipts basis of the personal income and tax tables, it was thought advisable to use the lower figures on taxes actually paid.

On the basis of *Statistics of Income* figures, ratios of taxes to production in various industrial branches vary widely and disparately, at least for corporate enterprise. Thus, normal income and surtaxes and excess-profits taxes varied in 1937 from 1.3 percent of value added in services, to 6.1 percent for mining (although the ratio is even higher in particular manufacturing industries, as for motor vehicles and tobacco). But for all taxes (i. e., those specified for deduction, not including those included in costs of operation, etc.) in relation to value added, the spread was from 6.6 percent of trade to 22.9 percent in transportation and utilities. The average for all corporations was 3.2 percent and 12.3 percent for the respective ratios. The same taxes as a ratio of gross receipts of all corporations were 3.5 percent, 1.2 percent for trade and 8.6 percent for transportation and utilities.

This method of utilizing *Statistics of Income* data on corporations provides an interesting check on the direct allocation of taxes to sectors of industry. Of course, the reliability of the check itself depends on the extent of corporate enterprise in the particular sector.

Since unincorporated professional people report earnings subject to individual income tax and are not liable to business taxes as such, there appears to be no need to include them in the business structure, although incorporated professional services are so included. It is always possible that the professional man makes allowance, in setting his fees, for his taxes; but the approximation is so vague and the eventual incidence so nebulous (and infinitesimal in the sum total of taxes) that it seemed advisable to regard his earnings and income tax with the personal income tax of other strata; i. e., as nonshiftable.

With regard to trade and construction, the solution was more problematical. Construction is still largely in an unorganized condition,

with many independent unincorporated contractors who pay general business and personal income but not corporation taxes. This distinction may well be ignored in view of the depression of the building industry and the very small taxes paid by it. (It paid \$15,000,000 Federal corporate income and surtax and excess-profits tax in 1937.)

This is likewise true of the numerous though perhaps not very profitable unincorporated retailers.¹ The small margin of net income on a rather tremendous gross done by trade and the large proportion of annual failures, suggests that small traders make small profits not subject to profit taxes.

In analyzing these data, it is important to include the gross income of concerns without net income, as well as those making a profit. In evaluating taxes due, various deductions are allowed; except for cost of operations, cost of goods sold, rent on business property, and depreciation and depletion none would diminish value added. The deductions should therefore be computed on this limited base in arriving at taxes paid by various industries. Almost the same results are achieved by subtracting these items from total gross receipts, except for financial institutions, where the difference is considerable, apparently due to the inclusion of nonfinancial business conducted by such institutions.

The allocation of State and local taxes was made for aggregates. However, their actual incidence may depend very largely on the extent and localization of the market of each industry. The National Resources Planning Board report on the *Structure of the American Economy*, presents the following list of industries with local markets:

Nonalcoholic beverages.	Stereotyping, electrotyping.
Bread and bakery products.	Compressed and liquefied gases.
Ice cream.	Manufactured gas.
Manufactured ice.	Unclassified sheet-metal work.
Engraving (lithographing, photo-engraving, etc.).	Foundries.
Newspaper and periodical printing and publishing.	Machine shops.
	Signs, advertising novelties.

It will be noted that some of these products (viz, ice cream, newspapers), despite their local market, have prices set by custom or Nation-wide corporations, so that special taxes in different localities must be absorbed by the enterprise itself in whatever manner is possible. The same holds true for some regional industries, which follow:

Fertilizers.	Wrought pipe.
Feeds for animals and fowls.	Structural and ornamental metal work.
Liquors, malt.	Lighting equipment.
Wooden boxes, cooperage.	Coke-oven products; fuel briquets.
Planing-mill products.	Cement, concrete products.
Iron and steel forgings.	Lime, sand-lime brick.
Steel barrels, kegs, drums.	Marble, granite, and other stone.
Steam and hot-water apparatus and fittings.	Carriages, wagons, sleighs, sleds.
	Paving materials, blocks, mixtures.

The large number of construction items with a regional market and the known divergent prices in that field suggest that different local costs, including taxes, may well be apportioned very diversely.

Available data give total State and local property taxes (including personalty which is estimated unofficially at 19 percent), farm prop-

¹ (See National Resources Planning Board, *Structure of the American Economy*, pp. 102-104.) 30 percent of retail sales of 1935 were made by independent stores with annual sales under \$30,000 and employing one or two persons. One-third of the construction by private firms was done by firms doing less than \$50,000 work a year each.

erty value, at 5-year intervals, with subdivisions for operators' dwellings, assessed valuations of all taxable property mortgage debt, and value of all homes. Since most of the figures are estimates, they are usable only with constant corrections, which reduce the value of final results even more. The originally computed agricultural real-property figure was adopted because it was best borne out by several spot studies. Thus, in Utah in 1935, two-fifths of the privately owned land in the State was owned by farmers and stockmen (cf. State of Utah, *Report of the Subcommittee on the Homestead Exemption Proposal and Taxation*, October 1936). (See also Montana Agricultural Experiment Station *Bulletin* No. 348, October 1937, "Assessment of Montana Farm Lands", p. 49, citing that farm land and buildings are one-third the property tax base; and *A Preliminary Report of the Survey of County and Municipal Fiscal Affairs Relating to the Effect of Possible Property Tax Exemption in Georgia*, February 1937, University of Georgia, showing that farm taxes are about half the total homestead taxes.) Making allowance for the predominantly agricultural character of some of the "check" States (but also for the poverty and low values of their farms, in comparison to the more prosperous dairy and grain States) and homestead exemption, the selected figure of \$1,203,000,000 as nonresidential farm real property taxes appears as adequately reasonable, taking the total as \$3,630,000,000.

On a different basis, using *Statistical Abstract* figures (1938, pp. 568-604) for farm property and taxes, it must be admitted that the agricultural property figure may be rather heavily overestimated. If so, the amount of difference should be attributed to homes, for which the minimum figure was taken. In the final analysis, *i. e.*, the procedures used to shift all business taxes to the incomes, the precision of intermediate allocation is of less importance than is the inclusiveness of the figure.

The remainder of \$1,186,000,000 property taxes was allocated on a 1935-36 wealth basis, except for utilities, which are specially taxed.

The unemployment compensation tax and one-half the old-age insurance tax were each independently allocated on the basis of percentages paid by each industry.

Table H.—Taxes on Business Shifted to Consumers and Shareholders

[In millions of dollars]

Income classes	Corporate taxes shifted		Taxes shifted to consumption ¹	Total taxes shifted	
	Federal	State		Federal	State and local
I. Under \$500.....	0.0	0.0	312.1	90	222
II. \$500 to \$1,000.....	3.7	.3	1,073.0	313	764
III. \$1,000 to \$1,500.....	6.4	.6	1,209.2	354	862
IV. \$1,500 to \$2,000.....	28.5	2.5	989.0	313	708
V. \$2,000 to \$3,000.....	57.9	5.1	1,128.1	382	809
VI. \$3,000 to \$5,000.....	110.2	9.8	636.4	293	463
VII. \$5,000 to \$10,000.....	151.6	13.4	319.6	244	241
VIII. \$10,000 to \$15,000.....	192.9	17.1	114.1	226	98
IX. \$15,000 to \$20,000.....	181.9	16.1	73.2	203	68
X. \$20,000 and over.....	543.9	48.1	187.5	598	182
Total ²	1,277.0	113.0	6,042.2	3,015	4,417

¹ This is the sum of the fourth and fifth columns in table G.

² Totals are given to the closest million.

Sources: See table E, and text, pp. 15 f, 23 ff; appendix V, p. 43 ff.

Table J.—All Personal Taxes, Including Taxes Shifted to Shareholders

[All money figures, except income classes, in millions of dollars]

Income classes	All direct personal taxes		Corporate taxes shifted		All personal taxes, direct and shifted	Percent of all personal taxes paid by each income bracket
	Federal	State	Federal	State		
I. Under \$500	26.2	5.5	0.0	0.0	31.7	0.8
II. \$500 to \$1,000	65.2	19.9	3.7	.3	89.1	2.3
III. \$1,000 to \$1,500	82.7	30.8	6.4	.6	120.6	3.1
IV. \$1,500 to \$2,000	73.7	43.5	28.5	2.5	148.2	3.7
V. \$2,000 to \$3,000	68.8	55.9	57.9	5.1	187.7	4.7
VI. \$3,000 to \$5,000	68.3	73.2	110.2	9.8	261.5	6.6
VII. \$5,000 to \$10,000	79.0	72.6	151.6	13.4	316.6	8.0
VIII. \$10,000 to \$15,000	77.1	83.7	192.9	17.1	370.8	9.3
IX. \$15,000 to \$20,000	94.9	89.6	181.9	16.1	382.5	9.6
X. \$20,000 and over	1,073.7	396.6	543.9	48.1	2,062.3	51.9
Total ¹	1,710.0	871.0	1,277.0	113.0	3,971.0	100.0

¹ Totals are given to the closest million.

Sources: See table E, and text pp. 17, 23, 27, appendix V, pp. 45, 48.

The shifting of corporate income and profits taxes has already been adequately covered. Most other business taxes, with the exception of sales taxes but including employers' Social Security taxes, were shifted in proportion to total expenditures. Adequate data exist for the allocation of sales taxes to the products on which these taxes are paid. The percentages in several States making surveys of their incidence have been surprisingly constant, with major differences due to the liability or immunity to such taxes of utilities and housing. The percentages shown by four ² such State surveys were averaged, and total sales-tax revenues distributed proportionately. Then the portion falling on each commodity was further allocated in proportion to the expenditures of each income group on that commodity.

It would, of course, be desirable to have a similar segregation for each business tax paid.

² Only four were used, because the sales tax had been in force in each for 2 or more years, so that the initial difficulties of enforcement in certain fields had been ironed out and a relative stability of yield achieved. See table VI.

INDEX

	Page
BARTON, BRUCE: Questionnaire sent to families in \$6,000 to \$40,000 income classes, 1939: Where would they cut expenditures in case of 10-percent-income-tax increase; comment.....	11
BUSINESS TAX: Business taxes as percent of income produced, 1938-39; comment and table.....	22
Data available; comment on.....	48
Taxes on business shifted to consumers and shareholders; dollar amounts, by income classes; comment and table.....	50
CAPITALIZATION OF TAX.....	38
COLM, GERHARD. Consultant in preparation of monograph.....	vii
CONSUMER INCOME. <i>See</i> Income, Consumer.	
CONSUMPTION TAX. Influence on consumption.....	30
New York City cigarette tax, evasion in 1939.....	31
Specific consumption taxes and all consumption taxes, dollar amounts, by income brackets; comment and table.....	47
Specific consumption taxes, 1938-39; comment and table.....	19
<i>Reference:</i> Lough, W. H. High-level consumption, 1935; cited.....	18
CUSTOMS DUTIES. Distribution of customs duties, by type of import, 1935-36, 1938-39; comment and table.....	14
DEFENSE TAX BILL. Analysis of bill.....	34-35
EXPENDITURE. Tax deductions and net; dollar amounts, comment and table.....	43
GIFT. Savings, expenditures and gifts, dollar amounts, by income classes; comment and table.....	43
HOMES. Percentage distribution of tax on real property on owned and rented homes in each of 53 cities or counties, 1938; table.....	40
INCOME: <i>References.</i> Baird, Enid, and Selma Fine: Use of income tax data in the National Resources Committee estimate of distribution of income by size; cited.....	45
Department of Commerce: Income in the United States, 1929-37; 1938; cited.....	28
Hicks, Ursula: Effects of financial policy on the distribution of income in Great Britain since the war; cited.....	27
National Resources and Planning Board: Consumer expenditures, 1935-36, 1939.....	
Consumer incomes, 1935-36, 1939.....	3, 6
INCOME, CONSUMER. Basic data on consumer incomes, 1938-39: Number of consumer units, dollar amount of consumer incomes, income per consumer unit, increase over 1935-36 per consumer unit, incomes including death and corporate income and profit taxes; comment and table.....	42
Business taxes as percent of income produced, 1938-39; comment and table.....	22
Consumer savings by income brackets, related to consumer incomes in 1935-36 and 1938-39; comment and table.....	33
Consumer units and income by income brackets; table and chart.....	7
Defense taxes as percent of consumer income; comment and table.....	35
Distribution and disposition of consumer income, United States, 1938-39; charts.....	7
Measurement of.....	3
National Resources and Planning Board, consumer income, 1935-36, used as basis for measuring income.....	3
Original personal, and specific consumption taxes plus business taxes shifted forward as percentages of consumer income, 1938-39; chart.....	5

INCOME CONSUMER—Continued.		Page
Personal and specific consumption taxes in percent of consumer income, 1938-39; comment and table.....		12
Personal and specific consumption taxes as percentages of consumer income, 1938-39; chart.....		4
Percentage of defense taxes paid by each income bracket, 1938-39 taxes, taxes under H. R. 9966 and H. R. 10039.....		34
Savings and taxes, Federal, State, and local, as percent of consumer income, 1938-39, comment, table 1, and chart.....		6, 7
Tax and income percentages for 1938-39, cumulated from lowest brackets; comment and table.....		28
Taxes, all taxes, in percent of consumer income, 1938-39; comment and table.....		12
Taxes and income, 1932, comment and table.....		28
Taxes and savings as percent of consumer income per consumer unit, 1938-39.....		30
Taxes in relation to consumer income, 1938-39, if 1932 tax rates had been in force in 1938-39; comment and table.....		29
Total taxes as percent of consumer income; if business taxes were shifted to wages, 1938-39; comment and table.....		26
INCOME, NATIONAL. Department of Commerce estimates, limitations.....		9
Taxes as percentage of national income in United States and Great Britain, 1935-36, 1938-39; comment and table.....		27
NATIONAL RESOURCES PLANNING BOARD. Consumer expenditures, 1935-36; and consumer incomes, 1935-36, used as basis for measuring income in preparation of monograph.....		3
Structure of American economy, cited.....		11
PERSONAL TAXES. All personal taxes, including taxes shifted to shareholders; dollar amounts, by income classes; comment and table.....		51
Income, social security, inheritance, estate and gift, poll taxes, personal property; by income brackets; dollar amounts; comment and table.....		45
REAL ESTATE. Distribution by class of owner of total taxes on real property for 53 cities or counties by population groups, 1938; table.....		40
Distribution of taxes by type of owner.....		40
RIGHT or C. E. Distribution of taxes on real estate by type of owners.....		39
SALES TAXES. Estimates of State sales taxes paid by commodity groups, 1937-39; comment and table.....		25
SAVINGS. All taxes and savings as percent of consumer income, 1938-39; comment, table 1, and charts.....		6, 7
Consumer savings by income brackets, related to consumer incomes in 1935-36 and 1938-39; comment and table.....		33
Gifts, savings and expenditures, dollar amounts, by income classes; comment and table.....		43
Influence of taxes on.....		32
Taxes and savings as percent of consumer income per consumer unit, 1938-39.....		30
TARASOV, HELEN. Who Pays the Taxes? Prepared by.....		VII
TARIFF: <i>References</i> , Ellis, Lippert S. Tariff on sugar. 1933; cited.....		14
Mohat, Haldore R. Tariff on wool, 1935; cited.....		14
TAXES. Customs duties. <i>See</i> Customs Duties.		
Deductions for calculating expenditures; comment and table.....		43
Federal, State, and local, and savings as percent of consumer income, 1938-39; comment, table 1 and chart.....		6, 7
Federal, State, and local tax receipts, fiscal year 1939, by sources; comment and table.....		44
Income and taxes, 1932; comment and table.....		28
Influence of, on business.....		32
Influence on consumption.....		30
Influence of, on savings.....		32
Original, personal, and specific consumption taxes plus business taxes shifted forward as percentages of consumer income, 1938-39; chart.....		5
Percentage of national income in United States and Great Britain, 1935-36, 1938-39; comment and table.....		27

TAXES—Continued.

Page

Personal and specific consumption taxes as percentages of consumer income, 1938-39; chart.....	4
Relation to consumer income, 1938-39, if 1932 tax rates had been in force; comment and table.....	29
Savings and taxes as percent of consumer income, per consumer unit, 1938-39.....	30
Taxes paid by sectors of industry, Federal, State, and local; comment and table.....	22
TAXES. <i>References:</i> Colm and Lehman, Economic Consequences of Recent American Tax Policy. 1938; cited.....	23
Dun & Bradstreet. Survey of Taxes paid by Business in 1938; cited.....	21
Great Britain. Committee on National Debt and Taxation (Colwyn Report) 1927.....	1
Hynning, Clifford. Taxation of Corporate Enterprise; cited.....	12
Internal Revenue Bureau. Internal revenue collections from specific sources, 1918-38; cited.....	28
Jacoby, Neil. Retail Sales Taxation, 1937; cited.....	24
Selective bibliography.....	36
Twentieth Century Fund. Studies in current tax problems, 1937...	1, 29
Warhurst, H. P. Effect of the general sales tax levies on retail sales, 1933-35; 1937; cited.....	25
URBAN LAND INSTITUTE. Questionnaire on distribution of taxes on real estate.....	39
VACANT LOT. Percentage distribution of tax on real property on vacant lots, by cities and counties, 1938; table.....	40
W. P. A. Urban Housing; Division of Social Research, 1938; cited.....	15



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